PROCEEDINGS

Sixth Annual Conference
of the
Model Reporting Area
for
Blindness Statistics
1967

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
National Institutes of Health

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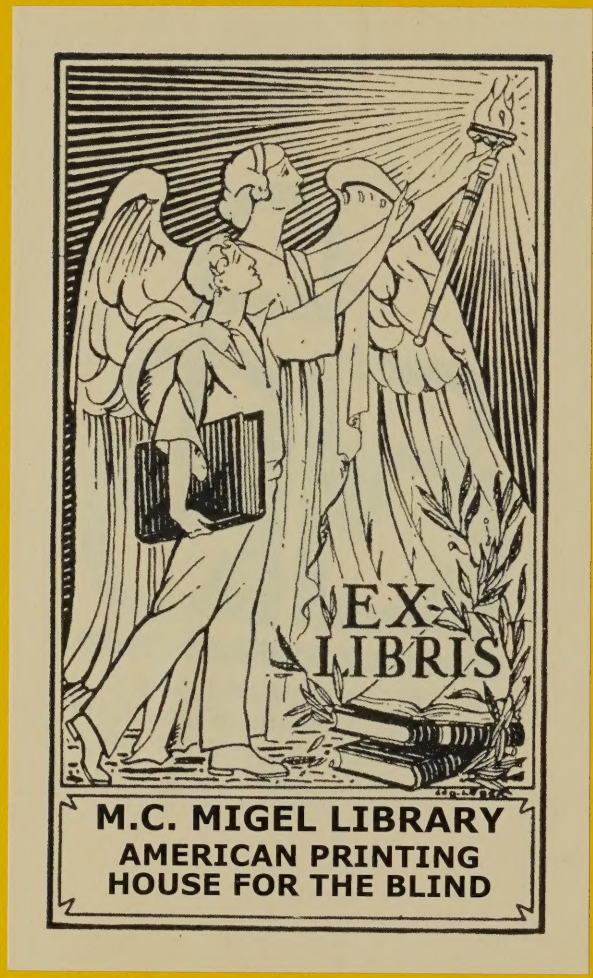
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Sixth Annual Conference of the Model Reporting Area for Blindness Statistics 1967

Bethesda, Maryland
May 18–19, 1967

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
National Institutes of Health
National Institute of Neurological Diseases and Blindness
Bethesda, Maryland 20014

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CONNECTICUT

H. Kenneth McCollam

Records of 3,400 registrants were updated in 1966. The services that a registrant received to date are noted on the back of the register card. Thus, the registrants that had not received any service or had not been contacted in any way in the year could be identified at any time. There were 370 such cases out of 3400 at end of 1966. These 370 were contacted by mail and the 12 that did not reply are being contacted directly by social worker. The register has been updated in 1966 as to who is still living, who should be on it and who should be dropped.

Vision impairment degree has not been determined for all registrants. Some have been classified as legally blind, but not as to vision impairment degree. Hence, the case records were reviewed to find information with which to code their vision impairment degrees. These cases had not been coded for vision impairment because it was believed that only those cases with eye reports or medical reports could be classified. Now it is believed that vision impairment degree can be classified without eye reports or medical reports. Case records contain information that enables the registrar to classify vision degree impairment correctly.

The quality control of coding causes of vision impairment and blindness has been a problem. It is hoped that the problem can be resolved with the quality control people here. This problem has arisen due to the change in the classification Index, which left the registrar using old coding rather than new. This problem is gradually being solved. The state ophthalmologist disagrees with some cases returned to the registrar from quality control, probably because he interprets the same data differently.

KANSAS

Marguerite Blase

Kansas has progressed in validating and updating its blindness register, primarily because the county social welfare departments have cooperated with the program. A personal visit to each person registered is made by county social workers to get current data for the register, to express interest in the person, and to offer services which the person may be interested in or need.

The State Supervising Ophthalmologist reviews all medical records for adequacy, recoding, etc. Kansas has had a blindness register since the 1930's and early registrations do not always have the required medical data. A medical record will be secured if at all possible.

Ophthalmologists and optometrists, for the most part, report blindness cases only when their patients need a service from the state. The doctors need to be stimulated to report all blindness cases. If they understand what the program wants from them and how the medical records are to be used, they will report.

The blindness register staff wear other hats too. This limits the time that can be devoted to solving problems, developing new methods, gathering data, etc., to assure complete and proper blindness registrations.

LOUISIANA

William V. Bridges

Since Louisiana has not received the revised code for classifying vision impairment and blindness causes, the coding that had been completed with the old code had to be recoded. The recoding was started in January 1967 but was delayed further when a clerk and a professional employee doing this work resigned. Causes have been recoded for about 16% of the registrants.

The number of blind persons to be contacted by the field staff in the annual updating of the register has been reduced gradually by use of the annual Newsletter, Blind Service File, and perforated cards. The Newsletter is mailed annually, first class, to all registrants. Those not delivered are returned and are checked for more current addresses and resent. The punched-card processing equipment compares the cards of blind persons receiving services with the MRA register and prepares a list of non-active service cases. These are persons who need to be contacted. Form letters or self-addressed stamped cards are sent to those not contacted after all other systems have been checked. Maintaining current addresses has been most important in the annual updating of the MRA register.

It is difficult to get medical reports on old age assistance (OAA) clients. They are not referred to the registrar by the Welfare Department because it is more advantageous for them to get financial assistance under OAA than as needy blind. Therefore, they are certified in the OAA category and no medical or eye reports are obtained. Nursing homes also do not furnish medical reports on the visually impaired and blind to the registrar.

Only a few ophthalmogists are reporting. Even when they do report their medical reports are not adequate. Ophthalmologists do not routinely refer blind persons to the registrar. They refer a patient for registration if the patient needs a service from the state. When a visually handicapped person is referred by the ophthalmologist it is very important to feed the results back to the doctor. At the New Orleans Academy of Ophthalmology Conference, Louisiana had a booth in which various pamphlets on blindness and services and the 1964 MRA statistics were displayed and given to ophthalmogists. Dr. Russell R. Widner, ophthalmologist, a member of the NINDB MRA staff assisted in manning the booth.

MASSACHUSETTS

John F. Mungovan

The following is the report on the progress of the Massachusetts Commission for the Blind's participation in the Model Reporting Area for the Calendar Year 1966.

By legislative action the Division of the Blind of the Massachusetts Department of Education became the Massachusetts Commission for the Blind on August 22, 1966. This has been a very busy year for the agency. We have doubled our social work staff, quadrupled our social work supervisory staff, tripled our Vocational Rehabilitation staff, and initiated a whole new program of Medical Assistance for the Blind under Title XIX of the Social Security Act. We have also contracted with Blue Cross—Blue Shield to handle most of our medical care payments. We have organized a very active program of in-service training, rewritten and modernized our program of Aid to the Blind (Title X) and moved our office to a new location with more spacious quarters. This enormous expansion of the agency has been accompanied by the expected growing pains, but these pains have been minimized through our excellent in-service training program.

All this expansion will have a profound effect on the quality of our statistical information relating both to blindness and to the social characteristics of blind persons we serve. There will be an opportunity for a more complete gathering of social data and hopefully for a greater utilization

of such data. We have established a central intake and referral service within the Commission and the case of every person registered as blind is controlled in this section. The intake worker with clerical assistance assigns each new registrant for initial contact. A social study and all reports of case workers on initial contacts are funneled back through the Intake Supervisor. Thus, we now have one single point in the Commission where all referrals are received and the action on them controlled. Thus, our statistical card which is our source of information is maintained in the intake unit for all accessions. The intake unit updates the information recorded throughout the year and codes and punches the McBee cards. At the end of the year, the statistical cards will be turned over to the research unit for counting, tabulating, and interpretation.

We have, therefore, provided a channel for the most complete accumulation of statistical data on blindness, services, and social implications possible.

Since we are primarily a service agency and since we hold the preservation of the rights of blind persons to privacy as a sacred obligation, we only provide services to the extent the blind person wishes. We therefore, do not delve into the lives of blind persons any more than required to provide the services requested. Hence, if the blind person wishes few or no service from our agency, we do not gather complete statistics about him.

When we get shaken down and fully staffed under our new organization, we shall certainly look towards computerizing our register of the blind as well as other activities of the Commission.

We have been aware of one improvement since we joined the MRA and that is an increase in the quality of our recording data and in the quality of our compilation of data. For this help, many thanks.

NEW HAMPSHIRE

Carl Camp

The six months ended June 30, 1966 were difficult because of repeated personnel changes.

The year ending June 30, 1967 was a good one because the state now has a stable clerk who can maintain the blindness register and make it more valid.

The first complete year on the punched-card system was 1966. The registrar cannot get the machine room to make special runs because they have higher priority work which precludes unscheduled requests from being processed. A clerk and not the machine room determined how many glaucoma cases there were in New Hampshire at end of 1966.

A major advantage of a punched-card system is the printout, which has been used extensively by the registrar. One printout revealed that almost half the registrants were not visited by any professional staff members in past two years. This indicates that blind clients are not served adequately.

Real progress has been made in updating. The old system of annually contacting the city clerks and officials of institutions for removals and additions has been partially abandoned. Direct mailing has been adopted and this is a better basis for updating the register and serving the blind.

The first mailing had only about 20 percent returns.

Only by means of the punched card and the machine room this state can participate in MRA and conform with its standards which are difficult to satisfy.

NEW JERSEY

Joseph Kohn

The central data processing system has been converted to magnetic tape and MRA information has been recorded on it. This will be faster and cheaper than punched cards.

The recent resignation of the former registrar has caused coding to fall behind but it is expected to be back on schedule soon.

The MRA is an effective reporting method for planning and furnishing services to the blind. New Jersey's fewer registrants per 100,000 population than in any other state is interpretable in various ways. It could be that many legally blind persons have not been registered. A 100 percent register is not sacred. It is an index rather than an absolute. New Jersey has a law requiring that all blind people be registered, but some resist being registered. The registration rate may be affected by wealth, i.e., only poor people get registered. However, New Jersey has a high per capita income, and it also is high among states as to recipients of OASI benefits. Since it is highly industrialized more of its old people receive Social Security benefits. Perhaps this financial independence is a factor. But, there are still other factors. It is agreed that there are about 450,000 blind people in the country, and that New Jersey has its share of these. A Princeton University Professor has estimated that the country has a million blind people, and has emphasized that many of them are blind in the 20/200 category. Thus, the reason for the low number of registrants per hundred thousand population in New Jersey is difficult to explain.

Resistance to being registered might be attributable to the term "blind." Consequently, it has been recommended that the Commission for the Blind be renamed to the Commission for the Blind and Visually Impaired.

Case finding is important because it brings service to those who need it. Service, however, is not forced on anyone; it is made available only if it is wanted.

New Jersey has a mobile eye unit for screening the vision of school children. In addition, there is a State-wide screening of adults in some 70 hospitals for glaucoma. Every case is referred to this Commission for follow-up. The New Jersey Medical School recently has received a Public Health Service grant for evaluating glaucoma in "pockets of need" areas. The Commission for the Blind has helped secure the grant. It is also assisting in setting up the program. A house trailer, equipped like a doctor's office will be used to examine adults. The program is about ready to start. People in homes for the aged will be the first to be screened. The Commission hopes the trailer will visit a particular large industry to make it possible to estimate glaucoma incidence and other eye diseases among workers.

The Commission has initiated an amblyopia screening program. It has secured staff for this purpose, and is organizing towns and communities. It is a complicated community organization problem, since it involves screening children of age three to five. This program is conducted jointly with the Department of Health and the Medical Society.

This Commission believes that a separate eye health institute should be established at the national level.

The register's usage for programming services to the blind is expected to increase as the MRA develops.

NEW MEXICO

John G. Jasper

New Mexico became an MRA member in July 1964. The register is maintained in the Division of Services for the Blind, a part of the Public Welfare Department.

The register has 2574 individuals on it at the present time. Difficulty in coding blindness causes has been experienced, so NINDB is coding for the state now. The state hopes to do its own coding by training a person to do the work. Five persons have worked on the register, and the present one has been doing it for about two months. This is the turnover rate in visually handicapped programs and other social service programs.

The Division of Services for the Blind has carried on its programs without adequate executive, administrative or legislative support. The support that the MRA program needs to be effective is being actively sought.

NORTH CAROLINA

Sherley Blackburn

North Carolina has improved its MRA records in 1966. The register was validated almost completely. Caseworkers for the blind and field representatives have furnished information for clearing and updating the cards. Better data are obtained each year.

North Carolina administers its Aid to the Blind Program through the State Commission for the Blind, and has a casework staff to do this function.

More blind people are being reported to the state registrar for registration, and better eye examination reports are submitted on them.

NINDB has helped the state to code blindness causes with the new coding manual which has proven to be very useful.

The data processing division has punched cards for data from register cards and has returned these punched cards to the registrar's staff for editing.

The casework staff has been augmented in the past two years, reducing the average blind caseload per worker. Thus, the caseworkers have time to validate existing register cards and secure information for new registration cards. Contacting these blind persons for completing MRA register cards enables caseworkers to explain services available to the blind and how these services may be secured from the state.

A person is not registered until the personal data is received from the field which in some cases occurs after the yearly data has been sent to NINDB. Thus, the NINDB totals at year's end may be less than the state figures.

Improvements are made each year, as the register is validated. Often conflicting eye reports are received from different eye physicians examining the same patient in the same period. NINDB assistance has enabled the state to code blindness causes more correctly. Conflicting reports are received on visual acuity. Consequently, the same person is removed from the register and readded to it repeatedly. NINDB should advise North Carolina as to how long it should wait, perhaps until another eye examination, to readd a person to the register whose vision has been restored.

As the register becomes larger, a person's record may appear in the files more than once. These duplicate records are eliminated with manual and computer methods. Some old people living in rural areas are not registered. It's a problem to register well-to-do people, because they are treated locally and often aren't reported to the state.

OREGON

Clifford A. Stocker

All persons on the register were contacted by us in 1966. Our mailouts began on the first Tuesday after Labor Day. From the 2476 questionnaires that were mailed, we have received 1821 returns, and an additional 60 marked unable to locate. Our registrar actively and efficiently pursues the unable to locate cases. Updating our register in 1966 was much easier than in 1965.

A project we undertook in 1966 studied the needs of blind persons in Oregon, as the blind persons themselves feel. We worked this out with the Department of Education at the University of Oregon, and their research team selected from trainees in vocational rehabilitation counseling. These trainees were fellows working for their Masters or Doctorates and became the interviewers. The project was steered by the University and we provided data from the register. Public Health, which has the data processing equipment, gives us prompt and economical service whenever we need information from punched cards.

The graduate school of Education at Portland State College in 1966 studied the employment fields entered into by legally blind persons who had been graduated from high school since 1952. The data processing people pulled the desired information for this study from the register. The graduate school paid the costs, and got the information it wanted.

As the register becomes better known we get more cooperation from ophthalmologists, other medical men and from various agencies that use information from the register. This has led us to believe that more interest in the register could be generated by increasing our public relations program.

The Oregon register had 458 additions and 296 removals in 1966. Frequently, a second mailing has to be made which we do in November. The second mailout produces good results. We personally see about half the people on the register during the year. It is not necessary to see all of them personally, particularly those who get talking books and use talking book machines and do not want or need other services.

The questionnaire we send to the registrants in our annual mailouts asks the question: "Are there any services which you need that the Commission might be able to provide or that you would like the Commission to provide?" Very few answer yes or indicate any felt needs. Less than 50 people requested additional services last year. Each of these was referred to the social worker in our Rehabilitative Services Division for providing service or taking other appropriate action. A woman, whose age was 76, asked for a good man, and a man asked for a good woman. We could not get them together.

RHODE ISLAND

Anthony G. Perry

MRA activities in 1966 included 79 additions to the register (15 less than in 1965), 92 removals (32 more than in 1965), and 232 whose vision impairment degree changed (28 more than in 1965). At end 1966, the register had 1,086 persons on it, or 9 less than the 1965 figure.

Each registrant was reached by mail for the State Medical Assistance Program. The response from this combined with an update effort yielded good results. A yearly update by mail is to be initiated in June 1967.

A Medical Casework Supervisor, four Social Case Workers, and one Vocational Rehabilitation Counselor have been hired for expanding services to the blind. The Medical Casework Supervisor is the MRA registrar and its coordinator.

Rhode Island's reporting of blindness law is not mandatory because it has no penalty clause. A plan is being developed for getting professional people to comply with it.

The only immediate problem is how to account

for a visually handicapped person who has a poor prognosis and receives services from the state. An increasing number of registrants are classified "Not Legally Blind." The MRA should provide guidance on how the state should prepare punched cards for getting needed statistical data on them.

SOUTH DAKOTA

Howard H. Hanson

Staff changes in the agency have increased pressures on people who maintain our register which was completed in December 1966. We now keep it current. Our register serves the blind and the visually handicapped. Consequently, more people have been referred to us for registration, including those who do not consider themselves legally blind.

Ophthalmologists have not cooperated in referring cases to us. Hence, our register, although complete for our purposes, does not include many blind people living in the state. Via public relations we hope to get ophthalmologists to cooperate and if we succeed our statistics will become more valid.

Since the state introduced centralized data processing and computer programming in May 1966, we could not get our processing performed on time. By July 1, 1967 we expect to get prompt services from the computer organization.

We plan to contact each registrant by personal visit or letter and enter current information on each register card.

The purchase of ophthalmological reports or actual exams on individuals is being considered because they are needed to update the medical information in the register and to have a registrant re-examined when necessary. We authorize reasonable prevailing fees up to five dollars for a report.

UTAH

Dr. Vaughn L. Hall

An effective interaction and communication has been developed between the state staff and the computer manufacturer. Computer check runs have proved that data have been communicated and recorded with little error. The state blindness registrar has established liaison with and obtains information on blind persons from state welfare workers for recording in the state register.

The state registrar reviews every register card to insure that each registrant is contacted at least once a year, and updates a card immediately upon receiving change information. The state staff, medical profession, and the public are being instructed on MRA value and uses. This has been the greatest progress to date. The MRA helps the state to plan and furnish services to the blind.

An effective review of potentially blind persons has been developed. If a client is not legally blind, but sight loss is progressive, the name is placed in a file that is reviewed monthly. The potentially blind persons are contacted by teachers. These constantly checked borderline cases are registered as soon as they become legally blind.

Doctors, public agency personnel, and the public are thanked for reporting blind persons to the state register. This is improving public relations. It is important to thank the reporting source for every blind person reported.

The new registrar needs training from the National Institute of Neurological Diseases and Blindness (NINDB) on how to code vision impairment causes.

NINDB has been slow in returning to the state eye-examination reports that NINDB was coding for blindness causes. If the coded reports are returned to the state promptly it can correct its coding errors immediately and keep its files current. Ophthalmologists frequently are slow in

forwarding their eye examination reports to the state. The state does not pay doctors for eye examination reports they submit. This has discouraged reporting. Consequently, the state is revising its budget to meet this need.

Eye reports on old patients are hard to get because they often are too feeble or ill to visit a physician. Persons are not registered if eye reports cannot be obtained for them. It has been difficult to obtain recent eye reports on persons examined previously and notified that nothing could be done for their visual problems. Recent eye reports are needed to show vision deterioration and to classify patients as legally blind.

Medical data on people in institutions and other health care centers and those living in rural areas are hard to get. Utah is still a rural state, with many miles and few physicians in rural areas. Some people resist being identified as blind and registration with the state. Medical and other data on visually handicapped Indians are hard to get.

VERMONT

Virginia Cole

MRA register for five years ending December 31, 1966 reveals more ups and downs than trends. It appears to be stabilizing. Each year's figures on site and etiology are more accurate than in previous years. Consequently, the registrar needs to make fewer requests for additional data.

Doctors are paid by the state for submitting reports on eye exams that had been completed and paid for. The state paid for reports years ago, but stopped when it was found that just as many reports were obtained without paying for them. However, since doctors are so busy now the state expects to get better reports if they are paid for.

The state does not conform to any fee schedules, but merely authorizes customary and prevailing rates for everything. The doctors, for the most part, charge $3.00 each for submitting a report on an examination that had been completed and paid for. The cost of the examination itself is 10 to 15 dollars.

Ophthalmological information from nursing and old folks' homes is deficient. A mobile eye clinic serving these people is desirable but the state has no plans to acquire one.

A joint study by the state and MRA, revealed a need to inform the public that services are available for severe vision restrictions as well as for total blindness. Changing the division's title to include "the visually handicapped" as New York State has done, would encourage additional persons to make their problems known, especially in school systems. There are not many totally blind children in school but many with serious visual handicaps are not aware of the help they can get.

The state makes an analysis of various sources reporting the legally blind for registration. A similar analysis should be made for the visually handicapped persons who are not sufficiently handicapped to be legally blind.

It takes too long to get summaries of blindness statistics to doctors and institutions which refer visually impaired persons for registration. More prompt release of these statistics will make them more useful.

The Green Mountain News for the Blind Newsletter, which is still the best method of updating our register, is mailed to registrants six times a year.

The state's medical and ophthalmological consultants believe that an accurate coding of vision impairment and blindness causes depends more on classification knowledge than upon ophthalmology knowledge. Therefore, they think that a registrar can code causes accurately. The state agrees with this. It will be difficult to update the entire register according to the new classification and the state expects to need help on this.

VIRGINIA

William T. Coppage

First additions to Virginia's MRA Register in 1966 increased 21 percent over 1965. Ophthalmologists and EENT specialists examined 92 percent of these first additions. Removal of 217 persons from the register in 1966, compared with 195 in 1965. There were 5,731 registrants as of December 31, 1966, an increase of 431 or eight percent over 1965. An average of 53 new additions are processed to the register each month. New referrals are submitted by five departments of this agency. With the help of the newly appointed Public Relations Officer, more external sources will be expected to refer persons for registration.

Since each department has its own case history folders, and many clients are provided services by more than one department, the MRA Register is the central locator file within the agency. Persons are reported for registration from Aid to the Blind, Vocational Rehabilitation, Home Teaching, Talking Book, and Education Services. When a department receives a new case, the MRA Register is checked to see if the name is on it, if so, what other department has provided services. Approved eye reports as well as case histories will be on file and available from another department.

New federal regulations permit services to be performed for visually handicapped even when they are not legally blind. These persons will be included in the MRA Register, although they will not be reported to MRA for statistical purposes.

The updating of the register is expected to begin soon. Of the 5,731 persons on the register 3,306 are now in active status in one or more of the five departments. A separate column on a registrant's punched card has been provided for each department to indicate whether the registrant is on active or inactive status in that department. The register is not updated for persons on active status.

The 2,425 persons on inactive status will be mailed a letter containing a prepaid self-addressed postal card to be returned. The updating should be completed before December 31, 1967. Blindness prevalence data are accurate only if the register is updated every year.

DISTRICT OF COLUMBIA

Ruth Klein-Essink

The District of Columbia completed its contract for establishing the register in February 1967 and applied for MRA membership.

The District has more blind persons than the 797 presently on its register. It is difficult to find blind persons treated by private physicians because the D.C. population is highly transient and D.C. has no mandatory law requiring the blind to be reported for registration. At this time the Senate has passed the bill and we hope that Congress will pass it in 1967. A mandatory law and the continuing contact with registrants should enable D.C. to increase its register to reflect the number of blind persons in the District more accurately.

All other D.C. agencies who serve the visually impaired have cooperated well with the registrar and upon request provide medical and social-economic information required for the register.

The processing procedures for the register are well established and are running smoothly. Information from the register is used for case finding purposes.

D.C. hopes to establish a deaf-blind register for giving services to deaf-blind people and the MRA register now furnishes statistics for this program.

GEORGIA

T. M. McCollum

The register is now directly under the Agency for the Blind in the Vocational Rehabilitation program. It was begun by a private agency but has now reverted to this agency for continuation.

The active register had 5,170 registrants placed into it, and 81 were removed leaving a total of 5,089 registrants at the present time. All information has been processed in the punched-card unit, except blindness causes. Vision impairment and blindness causes are being coded now with the uncorrected code, the improperly coded cases will be recoded when the revised code becomes available.

Removal of 81 registrants was made without emphasis on updating. Procedures and schedules for updating the total register are being developed now.

Two major groups that have not been included on the register are the preschool-age group and the old-age group. A way must be developed to secure information on them. Ophthalmologists are not reporting them to the state. Therefore, it is important to get their cooperation.

MARYLAND

George W. Keller

The Maryland Vocational Rehabilitation Division in June 1966 received from NINDB a contract for establishing a register of legally blind persons, and in September 1966 employed a registrar. The registrar's orientation and the development of procedures for setting up the register took time. Therefore, it was January 1967 when the first persons were registered. Information, including eye reports, had been collected on about 1,000 persons by May 1967, and some information, not including eye reports, was received on about 1,000 more.

The registrar has satisfactory work relationships and referral procedures with the State Welfare Department, State Health Department, Maryland School for the Blind and Maryland Workshop for the Blind. The latter two agencies are major referral sources and the registrar has persons working in both institutions to abstract case records. The big problem has been to get ophthalmologists in private practice to report. All hospitals with eye clinics have been contacted. The University of Maryland Hospital is responding well. Since the Johns Hopkins Hospital has several referral sources and has case records on a large percentage of Maryland's blind population, the registrar has arranged a procedure with the Medical Records Department for abstracting these case records.

Private ophthalmologists have reported only a meager number of patients until now. They do supply reports when the registrar requests information on particular individuals and informs the ophthalmologist that the patient has given permission for release of information. When such requests are made of ophthalmologists, they are reminded to report other patients to the register.

The Division is encouraged by the register's progress.

NEW YORK

Oscar Friedensohn

New York started with a one year MRA contract, and has had three or four extensions. Also, the MRA has more than doubled the money for this program. Despite this it is still not known how accurate the information is.

New York's problems are greater because its population is larger than in other states. Its register had about 37,000 people on it when the MRA contract started. Some registrants did not belong there and should have been removed, but were not because reporting for removal purposes was not accurate.

The New York Commission for the Blind (NYCB) records have been examined and the NYCB has contacted the two libraries for the blind serving New York State, all mental hygiene institutions, every county's welfare department, all nursing homes, and convalescent homes. After this there still were about 11,000 cases of the original 37,000 whose status was not reported from any source.

Then, the NYCB mailed a questionnaire to these 11,000 people and about 25 percent responded, including "unable to locate" and "deceased" from the Post Office, etc.

Despite the fact that the project is scheduled to end in June 1967, from 5,000 to 6,000 people still have not been located. Consequently, the register which should have from 36,000 to 40,000 people, according to Dr. Ralph G. Hurlin's estimate, will have about 22,000. It is known that these people exist but they cannot be found, even by telephone.

It is hard to believe that this register can be kept current year after year, when in about 10 years attrition would reduce it to a negative figure if new additions were not made.

Five full-time people are employed on this MRA contract, three clerks and two professionals. The NYCB regular staff will have to update the register when the MRA contract is terminated. The one part-time person budgeted for to update the register will not be able to do it. Staff inadequacy probably will cause the register to lose from 5,000 to 6,000 persons, primarily those who move about in New York State and to, from, and within New York City.

Of the 6,000 or 7,000 people who have not been found, 4,000 to 5,000 are in New York City. These are the hard core poverty group who are displaced by urban renewal projects and consequently cannot be found. It would cost much money to locate such persons, and the costs may not be justified.

NYCB sent a letter to MRA officials outlining the problem. New York hopes to get experiences of the other states on how they update their registers. Do they have 100 percent accuracy; or 50; or 75? The New York register is expected to be far below the total number of people who belong on it. For the 23,000 who have been verified there is no problem. These figures are accurate and sound. Blindness causes data, and the other data in the punched cards make sense.

From 3,000 to 4,000 new blindness cases are registered every year in New York State so this is a continuing process. If 3,000 people are registered in 1967, at least 1,000 others probably will not be on the register by the end of 1968. They will have been removed, primarily due to death and departure from the state.

It is not known from year to year how valid the register figures are for estimating the total blind population in the state. The verified information on registrants is significant for research purposes. For the use of MRA this is excellent data but to get the total number of blind people, a valid statistical estimate will have to be developed.

If anyone has any ideas on how to validly and sensibly update a register they should be made known to New York. We will be glad to try them.

BLINDNESS PREVENTION IN DIABETICS

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Director, Joslin Clinic and President, Diabetes Foundation, Inc.
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Diabetic retinopathy, a part of generalized diabetic angiopathy, may be lessened or deferred with good diabetes control, instituted early and maintained consistently. Data are cited in this paper to support this statement.

Some physicians disagree with this concept. One has asserted that diabetes detection is not worthwhile since at present nothing can alter the inexorable course of the disease. Such a view reflects unwarranted pessimism. Before insulin's discovery diabetic coma had a 64 percent death rate. It is one percent today. Juvenile diabetics live ten times as long counting only fatal cases; life expectancy is even greater for those living now. Early diagnosis and careful treatment postpone or prevent vascular complications in eyes and kidneys.

Diabetes has been defined in a variety of ways. A vast increase in basic research in the last 4 decades has advanced knowledge of basic factors involved and has led us to recognize that the cause or causes of diabetes mellitus are still unknown. One recent definition of diabetes does not mention glycosuria or hyperglycemia. It says that diabetes is a chronic systemic disease with abnormalities in the metabolism of carbohydrate, protein and fat, and in the structure and function of blood vessels. However, others believe that idiopathic diabetes, genetically determined, is due basically to a relative or absolute deficiency of insulin.

The definition that diabetes is a disorder of blood sugar regulation implies that genetic, endocrine and other factors influence the blood sugar level. Consequently, diabetes might result from diet, primary or secondary failure of the beta cells of the islets of Langerhans, one or more hereditary defects, or other factors that influence insulin synthesis, secretion, transport and action in responsive tissues. Regardless of mechanisms involved, diabetics—young or old, mild or severe—cannot retain glucose in their systems.

Hereditary or idiopathic diabetes occurs in two types. The first is the growth onset, juvenile, or ketosis-prone type; it is an unstable type. The second is the much more common, maturity-onset type; it is ketosis-resistant, related to obesity and less sensitive to insulin. In the juvenile type, insulin production although often normal at onset, frequently becomes non-existent in a few years. This is indicated by low levels of extractable insulin in the pancreases obtained from postmortems, or measurements of insulin activity in the blood. The non-hereditary or secondary type, a small percent of diabetes cases, may be due to damaged pancreatic tissue, pancreatitis, endocrine gland disorders, etc. Recent findings have revealed, however, that patients with non-hereditary diabetes may develop characteristic microangiopathy in the kidneys and eyes.

Clinically, diabetes is a chronic hereditary metabolic disease that usually develops insidiously, culminating in altered carbohydrate metabolism as characterized by hyperglycemia and glycosuria.

Diabetes has become much more prevalent due to longer life, population explosion, higher fertility in young women with severe diabetes, and better diagnostic methods. Four million persons in the United States probably have diabetes now and five million more are expected to develop it during their lifetime. Five to ten percent of diabetes cases develop in persons under age 20, but probably two-thirds begin after age 40.

A typical case is a patient aged 36, whose diabetes developed at 12 years of age with usual

[1] Died November 17, 1967.

symptoms. Careful dieting and insulin controlled the diabetes well. The urine was tested more than once daily and under medical direction, blood sugar values were kept at a reasonable level. Upon leaving home for school, the patient ceased dieting, urine testing, and consulting a physician, but used insulin daily. Slight proteinuria and many retinal hemorrhages were found at age 25. Proliferative diabetic retinopathy followed soon and at age 30, vision was reduced to finger-counting and serious diabetic renal disease had developed.

Scientists have altered the genetic code of bacteria and bacteriophages permanently. Recent evidence suggests that in higher organisms such as rats similar alterations may be possible. The hamster and certain mice carry the hereditary tendency and give researchers the best opportunity for diabetes study.

Ocular fundus examination disclosed capillary microaneurysms. The pathogenesis of these is not clear but seems to include circulatory stasis, accumulation of basement membrane substance in capillary walls and focal weakness in vessel walls. Cogan and Kuwabara believe that it is caused by loss of "mural cells" that maintain the tone of capillary walls. Further developments are large and blotchy hemorrhages, hard white exudates, preretinal and vitreous hemorrhages and even hemorrhagic glaucoma. New blood vessels become proliferated in many patients with or without strands of fibrous connective tissue.

Some believe that heredity causes the micro-angiopathy of diabetes. It is not known if a single trait is inherited, i.e., a metabolic defect which, if uncorrected, favors vascular disease, or if two independent traits are inherited, one for metabolic defect and one for vascular disease. Another theory is that metabolic defect and vascular disease stem from a common unknown inherited abnormality.

The primary causes of diabetes probably lie outside the pancreas. In early stages of juvenile and adult-onset type diseases, the blood may have a normal insulin level. Antagonistic influences may make some of this insulin ineffective. Greater demands are placed on islet tissue in early stages until the overworked mechanism breaks down. In well-established juvenile-onset type of diabetes, insulin or insulin effect is lacking. Presence of typical retinopathy in non-hereditary diabetes in men or animals, supports the concept that vascular disease develops from insulin lack and metabolic changes. Bloodworth and Engerman recently have produced experimental diabetes in dogs they have studied one to five years. They controlled diabetes poorly to induce ketoacidosis. Their animals developed a diffuse kidney lesion, a part of angiopathy which often accompanies proliferative diabetic retinopathy.

The Joslin Clinic has examined 1488 patients with proliferative diabetic retinopathy, a step beyond simple hemorrhages. Accurate onset dates for diabetes and retinopathy are difficult to establish. However, available data indicate that diabetes developed in 379 males and 315 females at age 19 or earlier, in 201 males and 191 females between ages 20 and 39, in 300 males and females between 40 and 59, and in 19 after age 60. The data for these 19 patients do not prove that diabetes developed after age 60, i.e., it could have developed earlier but was not detected. Five males and 16 female developed proliferative retinopathy before age 20; 364 males and 288 females acquired it between 20 and 39; 277 males and 301 females between 40 and 59. Hence, about 1,200 of the 1,488 patients developed proliferative retinopathy before age 59, i.e., during the active years of their lives.

The Quarter Century Victory Medal was established in 1948, by the Diabetes Foundation and the Joslin Clinic. It is awarded to any patient who, after having had diabetes for 25 years, is found to be in good health with no diabetic retinopathy, nephropathy or calcification as seen in x-rays of the legs or aorta. Ninety of the 120 Medal patients developed diabetes under age 19. Twenty-six developed it between 20 to 29 years of age and four between 30 to 34. Forty-nine have had it now from 40 to 53 years. Heredity is positive in 80. Ninety-eight married, and 22 did not. These patients had 165 children and 70 grandchildren. No grandchild has developed diabetes.

The first to receive the Medal was a boy who came to the Clinic at age 16, referred from another city because his diabetes, which had begun a year or two before that, could not be controlled with diet alone. His urine contained six percent sugar and 3+ diabetic acid. The latter implies ketosis or early acidosis and if untreated, the patient dies within hours. He was placed on a special diet. He had a highly-trained nurse who accompanied him

from 1921 to 1926. His diet was weighed and measured carefully on his travels, and today he still takes insulin and is active in business. The intensive treatment of this intelligent, cooperative patient has seemed to alter the aggressive character of his diabetes.

The more recent recipient of this Medal, a man in upper New York State, developed diabetes in 1939. He was treated in a fine hospital and received excellent instruction on diet. Substituting normal urine for his own, and denying his diabetes, he entered the Armed Forces in 1942. He remained well while he could buy insulin. However, he could not buy it in the South Pacific. He tried to diet. He was in profound diabetic coma and while unconscious was flown by plane to a major hospital where he recovered. He appeared at the Clinic in 1966 and was awarded this Medal.

Retinopathy in 306 cases of diabetic juveniles who have had diabetes for 20 to 30 years was analyzed to determine the relation between diabetic control and ocular lesions. Control was considered "good" when insulin use was begun promptly in these juveniles and the dose was regulated daily by a daily urine analysis. The diet was strictly controlled. It was weighed at home for at least 80 percent of these years. Medical supervision was good. These patients had never had coma. The "fair" control patients were those who tested the urine irregularly and visited physicians irregularly. Since they did not test their urine every day, they took the same insulin dose over long periods of time. However, they had never had diabetic coma. "Poor" control patients did not test the urine and did not see physicians. Consequently, they had preventable coma. A diabetic who does not test himself, has a lot of sugar in the urine, is dehydrated and loses potassium, may develop ketoacidosis and coma from a cold that would not affect a well-controlled diabetic. Fifty-eight of these patients had good control, 82 fair and 166 bad. Some of these patients have moved from Boston and New England, and have not visited the Clinic in years. Consequently, the Clinic does not have complete records on all of them. However, it is known that 21 of the 58 good control cases have no serious ocular lesion after all these years. Seventeen of 82 fair control cases have only minimal changes, i.e., no microaneurysms or only up to 5. Only 22 of the 166 poor control cases, in spite of taking insulin, are free of retinopathy or have minimal changes. Only 4 of 58 well controlled patients have proliferative retinopathy; they are not necessarily blind, but have the lesion. Although 21 of 140 good and fair control cases have advanced retinopathy, 72 of 166 poor control cases are so affected.

Retinopathy increases with the duration of diabetes. Short duration diabetics seldom get retinopathy; at five years there is practically none. As duration increases a higher percent of patients develop some kind of retinopathy, proliferative or otherwise. Better treatment has improved the health and life expectancy of diabetics.

A young girl with proliferative retinopathy whose vision was affected at age 20, improved her vision by diabetes control. Such improvement in retinopathy under metabolic treatment has been increasingly reported. This improvement in retinopathy consists of hemorrhage resorption but neovascularization is not affected. The Joslin Clinic has not given up hypophysectomy but currently is using chiefly laser beam photocoagulation in patients who lose vision in one eye but have only early changes and good vision in the other, hoping to postpone changes.

Knowles, Guest and associates have reported their findings in a 10-year prospective study of 108 juvenile patients with onset of diabetes at age 16 or younger. These patients were treated with unmeasured diets. Dietitians visited them at home and found great irregularities in diet. Seventy-eight of the series were observed in the 11th years of diabetes or thereafter. Severe diabetic ketoacidosis had occurred 300 times in the series (subsequent to the time of diagnosis). Thirteen per cent of the patients had 10 or more attacks of ketoacidosis. The eyes were examined with slit-lamp for all types of change in the lens; 47 percent of 78 patients studied had cataracts.

Local and national diabetes societies should cooperate with blindness prevention societies. They should: emphasize the magnitude of blindness from diabetes, the third cause of blindness in the United States and its first cause in England in 1962 for ages 60 to 69; urge early diabetes detection and control under medical supervision, especially in juvenile or unstable patients in order to defer or minimize vision loss; jointly plan case finding and screening for diabetes and ocular lesions; inform patients and physicians of the need for periodic ophthalmic examinations; make more physicians

aware of new methods for prolonging vision, including pituitary ablation or photocoagulation; recommend use of new classifications of diabetic retinopathy to help physicians determine treatment methods; and disseminate new research results widely.

Federal government agencies should inform the public concerning diabetes and its effect on the eyes. They should train professional and paramedical people, i.e., public health nurses, public health educators, and school teachers to get this message across to the public. They also should provide books and pamphlets on diabetes to public libraries, high schools and colleges.

The federal government, diabetes societies, and blindness prevention societies should plan a program for informing the public about the effect of diabetes on the eyes. The U.S. Public Health Service, together with private philanthropic agencies, should provide funds for such planning and for a pilot demonstration of the plan.

THE ADEQUACY OF BLINDNESS REPORTING

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New York, New York

Supported by contract number Ph 43–29 of the U.S. Public Health Service, National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland.
Participating in this study were the Biometrics Branch of the National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland, and The Mount Sinai Hospital, The Elmhurst City Hospital, The Bronx Eye Hospital, The Jewish Home and Hospital for the Aged, and the Beth Israel Medical Center, New York, New York. I.H. Leopold, M.D. (The Mount Sinai Hospital) was the study's consultant and H.M. Haddad, M.D. (Beth Isreal Medical Center) was its principal investigator.

In societies where infectious elements, such as trachoma and smallpox, constitute only a fraction of the complex factors contributing to blindness, the epidemiological aspects of blindness become vague despite the socio-economic impact associated with the incidence of blindness. It is not surprising, therefore, that in the United States less than a dozen states have made reporting of blindness mandatory. Reporting of blindness has been mandatory in the State of New York since 1945. Nonetheless, reporting of blindness in New York does not seem to be highly inclusive and adequate. For this reason the Biometrics Branch of the National Institute of Neurological Diseases and Blindness contracted the Mount Sinai Hospital to study the adequacy and the accuracy of blindness reporting in New York State. The purpose of this study is, by no means, to determine the actual incidence of blindness in such a model area. It is to determine how accurately data pertaining to the medical causes of blindness, namely etiology, site of pathology, visual acuity, visual fields and medical, social and psychological data related to or emanated from blindness are transmitted to the blindness registry.

This study has followed a certain protocol mostly in accordance with standards established by the Model Reporting Area (MRA) for Blindness Statistics sponsored by the National Institute of Neurological Diseases and Blindness. These standards include the use of a uniform definition of legal blindness and the use of a standard classification of severe vision impairment and/or blindness in an attempt to guarantee a greater degree of uniformity and reliability of data, particularly in relation to the causes and incidence of blindness.

Any patient with a visual acuity of 20/200 or less in the better eye with best correction, or with visual acuity of more than 20/200 with the widest diameter of the field of vision subtends an angle no greater than 20° is considered legally blind. Best correction does not include devices which

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cannot be used continuously, or which improve visual acuity to more than 20/200 only by restricting the field of vision to 20° or less, such as the use of telescopic lenses or the use of pinhole to improve vision.

Five hospitals in the City of New York were selected to participate in this study to cover a relatively wide area of the City of New York and to include a maximum of referral material from the rest of the State, especially adjacent to the city; The Mount Sinai Hospital, Elmhurst City Hospital, Bronx Eye Hospital, the Jewish Home and Hospital for the Aged, and Beth Israel Medical Center. Practitioners in ophthalmology and E E N T were reluctant to participate in this study because of fear of violating the patient's confidence. Some records from the private files of the study's consultant and principal investigator were included in this study.

Medical records were rejected from the study even if they satisfied the definition of legal blindness for the following reasons:

RETINOPATHY
- Diabetes
- Retinitis pigmentosa
- Hypertension
- Myopia
- Toxemia of pregnancy
- Arteriosclerosis
- Retrolental fibroplasia

GLAUCOMA

UVEITIS
- Cyclitis, Iritis
- Chorioretinitis
- Sympathetic ophthalmia
- Sarcoidosis
- Toxoplasmosis

KERATOPATHY
- Keratitis
- Corneal dystrophy
- Insterstitial keratitis
- Keratoconus
- Keratoplasty

INFECTIOUS
- Syphilis, congenital
- Rubella (German measles)
- Ophthalmitis
- Ophthalmia neonatorum
- Trachoma

If blindness was diagnosed one year before the beginning of the study, which was August 1, 1966, in order to avoid prejudicial errors.

If identifying data such as name, address, birth date, and place of birth did not conform with the data in the registry records.

If the address indicated that the patient was not resident of the State of New York.

If the cases were not reported to the New York State Commission for the Blind by the institution from which the medical record was obtained. The data in such a case could not be matched and therefore was inadequate for the study of the accuracy of data transmission. However, since it did not reveal the relative frequency of reported cases, such "unmatched" records were not entirely omitted from the study.

A list of diagnoses was selected from the Standard Classification of Causes of Severe Vision Impairment and Blindness produced by the National Society for the Prevention of Blindness as follows:

TRAUMA, POISONING, ETC.
- Burns
- Hyphema
- Alcohol poisoning
- Lead poisoning
- Lacerations
- Retrolental fibroplasia
- Foreign bodies

TUMORS
- Retinoblastoma
- Melanoma
- Metastatic tumors

OPTIC NERVE DISEASE
- Optic neuritis
- Demyelinating disease
- Multiple sclerosis
- Poisoning
- Temporal arteritis

CATARACTS
- Senile
- Congenital

MISCELLANEOUS
- Amblyopia
- Congenital anomalies
  - Aniridia
  - Nystagmus
  - Albinism
- Endocrine exophthalmos
- Anophthalmia
- Enucleation

These diagnoses were used as the basis for the requisition of medical records from the Medical Record Libraries of the participating institutions.

The selection of records differed from one institution to the other depending on the system of coding and storage used. One institution used the highly efficient Professional Activities Study System. Another used a filing system which combined all Eye or Ear disorders without the aid of code numbers. In another institution, all records were reviewed in alphabetical order because all files were kept non-coded.

Each record thus obtained was thoroughly reviewed for every date of treatment to determine whether the patient satisfied the requirements for this study. The selected records were abstracted. The abstracts were reviewed by the principal investigator, who requested further data, corrected the abstracted material, or rejected the record from the study. Some medical records were requested again for further review and for additional data.

Dead patients and those who recovered from blindness were included in the study. The dead were included since they still might be in the register. Recovered vision patients were expected to be in the registration files, even if they had not been registered or had been removed from the register.

The abstracted data from the medical record were copied into the following form as soon as the record was accepted for the study.

For each legally blind patient two copies of this form were made. The first was used only for the data obtained from the medical record. The data which was obtained from the Registry file was entered in the second form. For those patients who had no registry file, the second form remained blank.

A list of those patients found to be legally blind was submitted to the Commission for the Blind and Visually Handicapped of the New York State Department of Social Welfare. The list was submitted by name, address, and birth date. Every individual who had been reported should have a registry number on file. The registry number was entered on the study form, and the registry file was requested. On the whole, unless the registry file was missing, both registry number and file were obtained simultaneously, in which case the registry file was reviewed and abstracted.

The following is a blank registration card, i.e., it does not contain a record for a particular patient.

MT. SINAI HOSPITAL
Division of Ophthalmology
New York, New York 10029

NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS
Biometrics Branch, Bethesda, Maryland 20014

SURVEY OF COMPARABILITY OF REGISTER AND INSTITUTION DATA ON THE BLIND

PATIENT HISTORY RECORD

DEFINITION: The term "BLINDNESS" as used here refers to severe vision impairment as follows: "Visual acuity of 20/200 or less in the better eye with best correction; or visual acuity of more than 20/200 if the widest diameter of field of vision subtends an angle no greater than 20 degrees."

NAME AND ADDRESS OF INSTITUTION OR AGENCY	CODE NO.	Check one box:
		☐ Hospital ☐ Home for the aged
		☐ Clinic ☐ Other (Specify) _____
		☐ Nursing or rest home _____

NAME OF PATIENT:	(First)	(Middle)	(Last)	STUDY NO.
ADDRESS OF PATIENT:	NUMBER AND STREET	TOWN OR CITY	STATE AND ZIP CODE	INSTITUTION CASE NO.
LAST PREVIOUS ADDRESS:				REGISTER NO.

QUESTIONS ABOUT THIS PATIENT	ENTER ANSWERS IN THIS COLUMN	DO NOT USE THIS SPACE
1. Date of Birth (If unknown, give best estimate)	MONTH, DAY, YEAR	
2. Place of Birth	(Town or city) (State or country)	
3. Sex	☐ Male ☐ Female	
4. Age at onset of blindness	YEARS; CHECK LAST EYE TO GO BLIND: ☐ Left eye ☐ Right eye	
5. Date patient diagnosed as blind	MONTH, DAY, YEAR	
6. Age of patient when blindness first diagnosed	YEARS	
7. Visual acuity with best correction at time diagnosed blind	LEFT EYE; RIGHT EYE; ☐ Unknown	
8. Field of vision at time diagnosed blind	LEFT EYE; RIGHT EYE; ☐ Unknown	
9. CAUSE OF BLINDNESS This section based on examination ONLY by ophthalmologist or EENT specialist.	SITE OR TYPE OF AFFECTION — EYE: Left / Right ETIOLOGY — Left / Right OTHER EYE CONDITIONS — Left / Right	
10. Date patient most recently seen.	MONTH, DAY, YEAR	
11. Is patient still alive?	☐ No ☐ Yes ☐ Unknown	
(a) If dead, date and place of death:	DATE OF DEATH ☐ Unknown PLACE OF DEATH ☐ Unknown	
(b) If alive, is he still blind?	☐ Yes ☐ No ☐ Unknown	
(1) If no longer blind, when was vision recovered?	MONTH, DAY, YEAR ☐ Unknown	

NIH-1020
8-66

(Please continue with form on next page)

SURVEY OF COMPARABILITY OF REGISTER AND INSTITUTION DATA ON THE BLIND

PATIENT HISTORY RECORD - Continued

QUESTIONS ABOUT THIS PATIENT	ENTER ANSWERS IN THIS COLUMN	DO NOT USE THIS SPACE
12. Medical history relating to eye conditions	☐ No ☐ Yes _____ (Specify) ☐ Unknown	
13. Family history of eye conditions	☐ No ☐ Yes _____ (Specify relationship to patient) ☐ Unknown	
14. Hearing loss (If "Yes," check appropriate box):	☐ No ☐ Yes → ☐ Slight ☐ Serious ☐ Total loss ☐ Unknown amount ☐ Unknown	
15. Mental condition	☐ No ☐ Yes ☐ Unknown	
16. Mental defect	☐ No ☐ Yes ☐ Unknown	

17. SPACE FOR ADDITIONAL COMMENT

18. NAME OF PERSON COMPLETING THIS FORM	DATE

NIH-1020
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STATE OF NEW YORK DEPARTMENT OF SOCIAL WELFARE

COMMISSION FOR THE BLIND

CONFIDENTIAL EYE MEDICAL REPORT

(Information for official agency use only)

Folio No.....

Form CB-104 (1/58)

NAME OF PATIENT..... Date of birth.....
(If minor include parent or guardian's name)

ADDRESS..... County.....

Date of examination..... Clinic No.....

Approximate date of onset of eye disease.....

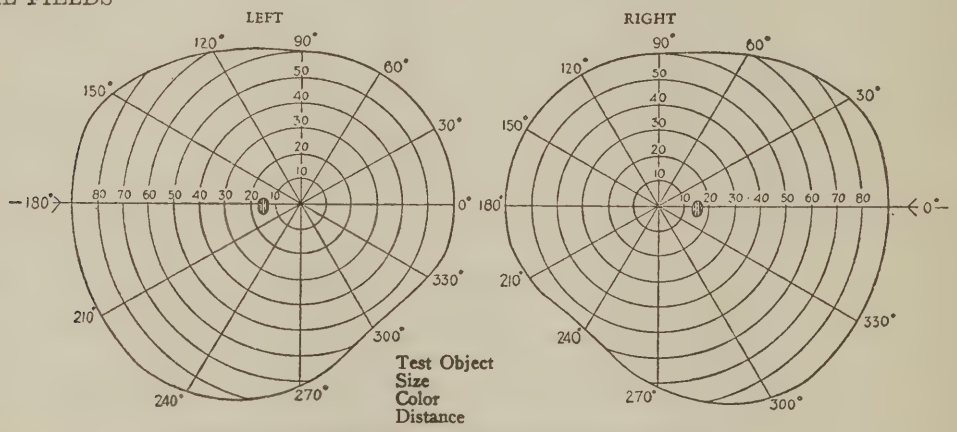
VISUAL ACUITY

Distant Vision

Without Correction	Rt..... Lt.....	With Best Correction	Rt..... Lt.....	Correction Being Used	Rt..... Lt.....

(If necessary state vision in terms of light perception, light projection, hand movements, or ability to count fingers.)

VISUAL FIELDS



Central scotomata determined with correction may be plotted above.

DIAGNOSIS Right..... .....
Primary Secondary

Left..... .....
Primary Secondary

ETIOLOGY Right.....

Left.....

Statistics on blindness depend on these data. Please fill in.

Does patient have related systemic disease? If loss of sight is due to injury, indicate nature or circumstances.

PROGNOSIS Will medical or surgical treatment improve condition?.....

Do Not Write in This Space

What treatment is recommended?.....

Other disability .....
(Note if deaf or hard of hearing)

Re-examination in.....months?

.....M.D.

.....
Address

(SEE OTHER SIDE)

NEW YORK STATE DEPARTMENT OF SOCIAL WELFARE
COMMISSION FOR THE BLIND
15 Park Row
New York, N. Y. 10038

MANDATORY REPORT OF BLINDNESS

The New York State Commission for the Blind is required by law to maintain a complete register of the blind in the State of New York. Under Chapter 654 of the Laws of 1945 all blind persons must be reported to the Commission for the Blind. (See law below.)

Services are available to the blind from the Commission for the Blind, other State departments, and local agencies for the blind. These services include instruction in personal management, Braille, typewriting and handicraft; direct service to parents of preschool blind children; educational consultation; rehabilitation services; talking book machines; and referral to local eye health and welfare agencies.

Suggestions for services needed:

NEW YORK STATE COMMISSION FOR THE BLIND
Chapter 654 Laws of 1945

It shall be the duty of this commission to cause to be maintained a complete retister of the blind in the State of New York, which shall describe the conditions, cause of blindness, capacity for education and industrial training of each, with such other facts as may seem to the commission to be of value. It shall be the duty of every health and social agency, attending or consulting physician or nurse to report to the state commission for the blind, in writing, the name, age and residence of persons who are blind within the definition of blindness as hereafter set forth and in such cases to furnish such additional information as the commission shall request for registration or prevention of blindness.

A blind person shall be defined as one who is totally blind or has impaired vision of not more than twenty/two hundred visual acuity in the better eye and for whom a diagnosis and medical findings show that vision cannot be improved to better than twenty/two hundred; or who has loss of vision due wholly or in part to impairment of field vision or to other factors which affect the usefulness of vision to a like degree.

(SEE OTHER SIDE)

Those patients who were reported, and had registry files fell into two categories:

The first composed of those who were reported by the same institution and considered "matched." The data of the first date of reporting by the institution from which the medical record is obtained was abstracted, and matched with the data from the medical record for the closest date to and previous to reporting.

The second category consisted of those who were not reported by the same institution, but were reported by either another institution or a private practitioner. These were considered "unmatched," and the data of the initial date of reporting were used.

After the reported data were abstracted from the state register, the register study form was completed and submitted to NINDB. If a patient had no state register data, a blank register study form containing the patient's name, address, and birth date was sent to NINDB. If a patient's register card was missing, the register form contained a register number but was blank otherwise. The state registrar searched for these missing records until they were found and if they could not be found declared them to be not on record.

Provisional data from this study for the period from August 1, 1966 through March 31, 1967 are as follows:

Institution File	Number of Medical Records	State register file	Number of Medical Records
Requested	2523[a]	Requested	273[a]
Reviewed	2240[b]	Abstracted	86[b]
		Rejected	12
Abstracted	327[b]	Reported but missing	5
Rejected	109	Reported but refused by registry	1
		Reported—Matched	14
		Reported but not matched	30
Legally blind	203	Total Reported	50

[a] includes repeats.
[b] includes repeats and rejects.

From August 1, 1966 until end 1966, the procedure was reviewed constantly and many records were re-requested, re-abstracted or rejected for various reasons discussed heretofore.

The study's major effort was to select and abstract data from medical records. Less than 10% of requested records were legally blind cases, and about 10% of these requested cases were not obtained from medical record libraries. About 15% of reviewed medical records were abstracted and close to ⅓ of the abstracted ones were rejected from the study.

The matching of records was a major difficulty. In the 50 of 203 legally blind persons who were reported: 5 were missing, 1 was legally blind, but was not registered; 30 were not matched (were not reported by the institution from which the medical record was obtained).

Thus about ¼ of the legally blind individuals in the sample were reported. This is a meager number considering that blindness reporting in the State of New York is mandatory. In terms of data transmission, less than ⅓ of those reported were reported by the same institution. These cases were the most significant for this study.

These statistics have been analyzed incompletely and superficially. Reporting of legal blindness is inadequate and inaccurate for several reasons. The most important one is that ophthalmologists and EENT specialists and trainees do not realize that mandatory blindness reporting is important. These reports defined diagnosis and etiology vaguely. When more than one report was available, even from the same practitioner, there were discrepancies between two reporting dates even when the medical record data did not change. This indicates that the physician or resident who reported the case did not keep a copy of his report.

The data must be analyzed thorougly and the study completed in order to get final conclusions. The conclusions of this paper cannot be validated by the small number of sampled records in the study. Therefore, incomplete and ambiguous reporting cannot be assessed. When completed, this study may suggest a relation of incidence to etiology, and etiology to para medical factors. It might explain underreporting and clarify data transmission problems.

The physician's delinquency could be the major reason for underreporting. Partially blind patients dislike being called blind. A legally blind person is not necessarily totally blind. A glaucoma patient with visual fields subtending 10° in each eye and 20/20 central vision can read, walk, and even obtain a driver's license since the vision test for a driver's license in New York State depends entirely upon visual acuity. The practitioner might consider it incongruous to declare such

person legally blind. A high myope with 20/200 vision can read small print but may be discharged from employment, if declared legally blind. Such a person with 20/200 vision in each eye may not want to be called blind or even legally blind. Such a patient may still have full fields and can still cross the street and adequately do other duties. Consequently, ophthalmologists and EENT's seem reluctant to participate in this study in order to protect their private patients despite secrecy assurances.

The word blindness is feared. A patient with bilateral retinal detachment may have a 20/100 eye and 20/200 eye with restricted visual fields in each. If such a patient is reported legally blind, the fear of going blind may never be eliminated, and the patient might despair and become depressed, even though the retinal detachment may not recur and the patient may have had surgical recovery. These are other examples to show that reporting should be modified to protect the patient, emotionally, socially, and professionally.

Underreporting results from neglect by the medical practitioner. Since legal blindness is not a formal diagnosis and consequently not recorded in the eye test chart, a physician may not report a patient with a 20/200 eye and 20/20 eye with fields restricted to less than 20°.

This study's preliminary results disclose that blindness is often reported inaccurately, tardily, or not at all. The most practical way to get better reporting is to educate the public and ophthalmologists. They need to be told what legal blindness is, that blindness reporting is necessary, and that medical institutions need to improve their blindness reporting facilities.

Thanks are due to Dr. Irving H. Leopold, Director, Department of Ophthalmology, The Mount Sinai Hospital, New York, New York for acting as consultant to this study and for his advice and assistance; to Dr. Hyman Goldstein and Mr. George Inada, former project officers of the Biometrics Branch of the NINDB, NIH., Bethesda, Maryland; to Oscar Friedensohn, Director and Mrs. Kathleen F. Lawlor, Supervising Consultant of Eye Health, the Commission for the Blind and Visually Handicapped, New York State Department of Social Welfare, New York, New York; to the Staff of the Medical Record Department of the participating institutions, and in particular to Mr. John J. Baie, and Miss Estela Cruz of the Mount Sinai Hospital, Miss Janice Francesconi of the Bronx Eye Hospital, Mrs. Ann S. Johnston of the Jewish Home and Hospital for the Aged, and Miss Blanche Feinberg of the Beth Israel Medical Center; to Mrs. Martha R. Devlin, Mrs. Penny H. Gold and Miss Barbara L. Hochberg for their expert and devoted assistance throughout this study.

FEASIBILITY OF A STATEWIDE SURVEY OF COMPLETENESS AND ACCURACY OF BLINDNESS REPORTING

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This study began on June 1, 1966 and was completed in four months. Two interviewers sample surveyed referral sources of a county and an eye clinic in another county in order to find out whether it would be feasible to sample survey the entire state. The study was performed by the Vermont Division of Services for the Blind and was supported by a contract (PH 43–67–17) from the U.S. Public Health Service, National Institute of Neurological Diseases and Blindness (NINDB), National Institutes of Health (NIH), Bethesda, Maryland.

A few sources that report blind persons to the state register for registration were planned to be interviewed in one county. Each source was to be interviewed concerning reporting completeness and accuracy, and feasibility of a statewide sample survey. Reporting completeness is the percent of the legally blind persons that the source has reported to the state blindness register for registration. Reporting accuracy is the accuracy of the information that the source has reported on a blind person. A statewide sample survey would be considered feasible if it revealed how completely and accurately the reporting sources report their blind patients to the state register for registration. The statewide survey would not be feasible if the reporting sources would refuse to participate in the survey. Vermont was selected by NINDB for the feasibility study because it has a relatively small number of blind persons and sources that report blind persons to the state blindness register for registration. This was expected to reduce the cost of a statewide study if it was found to be feasible and it was decided to do it.

It was decided to interview reporting sources in Washington County located in Vermont's central part, an area that would not be expected to serve clients from adjoining states. Another reason for selecting this county is that it includes the "twin cities" of Barre and Montpelier.

The contract proposal from NIH suggested that one each of the following be interviewed: ophthalmologist, optometrist, general practitioner, internist, pediatrician, home for the aged, nursing or rest home, school for the blind, and an eye clinic. Washington County did not have an internist, a school for the blind or an eye clinic when it was to be surveyed. Hence, it was decided to omit internist and school for the blind from the study, and to include an eye clinic from an adjoining county. Furthermore, it was decided to interview two reporting sources of each type except for the one eye clinic. Consequently, only 13 reporting sources were interviewed.

The following conclusions were obtained from the interviews. Reporting of the legally blind to the state register for registration was incomplete. Some sources did not report any of their patients for registration primarily because they were not aware of the state blindness register's existence and of services available to the blind from the state. Other sources reported their patients for registration only when they needed services from the state.

The accuracy of the information reported to the state blindness register could not be determined from these interviews. The optometrists would not make their patient records available for examination. The eye clinic's records were mixed with other records so it would be a difficult task to find them. The interviewed persons were reluctant to

make their patient records available for examination due to their confidential nature.

A statewide survey was considered to be not feasible by most of the interviewed persons for a variety of reasons. The confidential nature of a blind person's record was considered to be a major deterrent. Another obstacle was the belief that a statewide survey was unnecessary. Some interviewed persons believed that a statewide survey was such a big and complex job that it could not be successfully completed.

Those who believed the statewide study to be not feasible suggested that completeness and accuracy of reporting to the state blindness register could be increased in a variety of ways. Better education of optometrists by the Vermont Division of Services for the Blind would result in more complete reporting. The state should advertise in newspapers so friends and neighbors of the blind would report them to the state register for registration. More information should be sent by the state to nursing homes and homes for the aged on services available to the blind from the state. General practitioners should be given more information on state services available to the blind. State staff should make speeches to organizations and groups that report blind persons to the state register for registration.

The study did not prove conclusively that a statewide survey would not be feasible. It revealed the difficult problems that would have to be solved before a statewide survey could be undertaken successfully.

Both the state and NINDB agree that the findings of this study are worth much more than the resources that were expended on making it.

STANDARD DATA ELEMENTS FOR MODEL REPORTING AREA

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The states and the federal government need a variety of data elements on each blind person for serving the blind, blindness prevention, and study of eye diseases. These data elements are residence county, birth date, race, sex, when registered, when removed from register, why removed from it, when eyes were examined last, examiner's discipline, age at blindness onset, blindness cause, and blindness degree.

These data elements must be accurate and consistent and comparable between states. This can be achieved only if MRA states and NINDB perform their functions in a prescribed way. Every MRA state must; define blindness and each data element in the same way; collect these data elements from same kinds of sources, i.e., ophthalmologists, EENT's, hospitals, nursing homes, etc.; edit these data elements manually and with punched card processing equipment or computer; and forward these data elements to NINDB in the same recording media such as punched cards. NINDB must promptly and thoroughly answer requests from states for information, for assistance on data processing problems, and for guidance on classification of blindness causes.

Some blind persons are not reported to the state for registration, data elements for some registrants are not accurate, and some registrants have not been removed from registers after death, departure from state, or vision recovery. For these reasons the MRA register data elements at present have only limited value for estimating the characteristics and attributes of the blind population in the United States as a whole and for making studies seeking additional insight into blindness etiology.

This conference has revealed the problems and progress of the MRA states in updating and maintaining the data elements in their blindness registers. The inadequacy of these data elements for the cited purposes is the most serious problem of the MRA program at this time. These data elements can be made adequate for these purposes if the medical profession and institutions will report these data elements to state agencies for registration, and if the state agencies will furnish them to NINDB for analysis, publication, and distribution to the public, federal and state government agencies, and national associations serving the blind.

RESEARCH OBJECTIVES FOR MODEL REPORTING AREA

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The major objectives of the Model Reporting Area (MRA) are to create and maintain state registers of the blind. The need for services to the blind and the methods of providing them are reflected by the data recorded in these registers. The fact that 14 states were in the MRA program at end April 1967 implies that these registers are useful and that their usefulness has been recognized.

Involvement of the National Institutes of Health in the MRA program implies that the MRA has other objectives, particularly research. Clearly, by their participation, the member states have demonstrated their interest in this research. However, specific and clearly defined research goals have not been established for this program. After data such as those recorded in the registers have been collected, it is difficult to elicit the research objectives for which these data were originally collected.

Consequently, there is an urgent need to develop an ordered set of research hypotheses toward the testing of which uniform data can be collected with these registers. These hypotheses must come from ophthalmologists in the program, appropriate medical societies, and other experts on blindness.

If the data recorded in these registers are to be used for testing research hypotheses, their quality will have to be improved. This means that we can tolerate less underreporting, less mistakes in the registers, fewer invalid registrants (dead, recovered vision, departed from state), incorrect definition or classification of vision impairment cause, and incorrect measurement of vision impairment degree.

We could try to develop an ordered set of hypotheses to be tested with the kind of data that are collected now by means of these registers. This is a restricted set of hypotheses because the data set has been prescribed first and the hypotheses determined afterwards. Even this restricted set of hypotheses must come from ophthalmologists in the program, appropriate medical societies and other experts on blindness.

A broader set of hypotheses to be tested need to be determined by first stating the research objectives to be attained. Research can be eye disease oriented or associated with people. If it is eye disease oriented as is the case for NIH, it seeks to find causes of eye diseases that have no known cures and to develop cures for such diseases. If it is associated with people (epidemological or demographic) it strives to find out why people are blind, how blind they are, where they are, their race, sex, age, environment, when they became blind, etc. It should be noted that NIH is interested in this type of research too. Such research is concerned with numbers of blind people, their characteristics and attributes, and their environments.

Having determined what kinds of research are to be performed, hypotheses must be formulated for each kind. As a matter of fact, in some cases hypotheses cannot be formulated before a specific research project has been defined and research methods have been selected.

After the hypotheses to be tested have been defined, the data required for testing them have to be obtained.

DATA AUTOMATION AND STORAGE EQUIPMENTS FOR BLINDNESS REGISTERS

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Consider a digression. It has been mentioned that a financially independent legally blind person may not want to be registered. Since a legally blind person is entitled to an additional $600 federal income tax exemption, and some states grant a legally blind person other exemptions, voluntary reporting might be encouraged if the state blindness registrar gave such a person a proof of blindness certificate. This certificate could be produced as part of the mechanized procedure of registration.

Some procedures that a state registrar can use, with punched card equipment or computer, are discussed in this paper. None of these procedures necessarily requires a large-scale computer, however they do require ingenuity in equipment use.

The computer or the tabulator really is an additional clerk for the state registrar. It is a mechanical clerk-typist that provides a quick and accurate service. When used properly it can be of great help. For example, addressing and mailing a letter or notice to every registrant on New York's large register is very expensive. If automatic equipment is used to keep a record of registrants who have replied and those that have not, and to make several follow-ups to get replies from non-respondents, costs can be reduced substantially. Human beings could do this but they are hard to find and require more direction to keep them going on such a tedious task. A mechanized procedure for mailing and follow-up on non-responses once it is written and tested is more uniform. The advantage of a computer over punched card equipment in making follow-ups is that there is less human intervention between each stage, so there is less chance for error, particularly from missing punched cards or out of sequence cards.

A punched card can hold up to 80 or 90 characters of data (numbers, letters, or special symbols). It can also be used to store a document such as a register card if the card is photographed on microfilm. The microfilm is fastened into an opening in the punched card or operative card. Information required for referencing, searching and sorting the aperture cards is punched also, therefore, the cards can be sequenced, etc., with card-processing equipment.

The aperture card which can be purchased from several companies is a mechanized way to handle a large and growing number of register cards. For example, registrant records removed from an active register could be microfilmed and put into aperture cards. The volume of records removed could become so large that in a few years the registrar would find it impractical to reference, research or sequence the file manually. The aperture cards can then be run through a sorter or tabulator for retrieving specified cases and the retrieved cards can be placed in a microfilm reader or even a machine that makes a full-size copy of the 5″ x 8″ register card from the inch-square microfilm.

Names and addresses can be printed on envelopes, postal cards and letters from punched cards, punched paper tape, magnetic tape and embossed plates.

Hundreds or thousands of letters or postal cards can be addressed to registrants from Addressograph plates or printed on labels by a computer or a card-processing machine. A label can be peeled off and attached to the envelope manually or by a

machine. Commercial mailing houses print addresses on labels, peel and attach them to envelopes mechanically. The address labels are produced from the customer's punched cards or address list.

To print addresses on envelopes and postal cards from embossed plates, e.g., Addressograph, is cheaper than punched cards, but the embossed plate method is less flexible. With punched cards, the name and address can be made a part of a registrant's complete data set, whereas with embossed plates only the registrant's name and address and some small amount of additional data could be recorded. The computer or punch card machine could be used to select only those parts of a registrant's punched card record that are needed in the application.

A continuous strip is available today from which a registrant's computer printed address could be transferred directly to the envelope when passed through a heat process machine. It is used for government pay checks and also by magazine publishers.

A computer can be programmed to print addresses on envelopes on a continuous roll, and these envelopes can be separated from each other afterwards. It also can be programmed to print questionnaires for mailing in these envelopes.

When a register is updated, a follow-up procedure may require any one of four or five different messages to be sent to the blind person based on eye disease conditions or other factors. The computer could be programmed to print the specified message for the person based on data in the file. This could be on a post card. If some of the messages are confidential, they can be inserted in a window envelope with the address visible for mailing.

A computer program can select any desired data items from a magnetic tape containing registrant records and the selected items can be spaced in any manner. Special pre-printed labels, available from several companies, may be used for recording the selected items. The computer, under program control, analyzes input data and can print items that do or do not have certain prescribed characteristics.

Self-stick labels can also be used for addressing letters, questionnaires, or post cards to registrants. Another way to produce addresses mechanically is to use a special typewriter such as the Flexowriter, using a punched card or paper tape input to make a list of names. The list can be typed manually as well. A gummed label can then be produced cheaply from such a list using a heat transfer process machine such as the Thermofax. The original list typed on the typewriter, or processed from punched cards through a Flexowriter, is then run through the Thermofax to make the labels for mailing. This is obviously designed for a limited file, and is a cheaper process, but it is another way to make cards that were produced for statistical and other reference reasons serve other purposes.

An automated system for addressing mail to registrants enables the registrar to contact them more times in a year since costs are reduced. The computer could, in addition to printing a registrant's address, save separate printing costs and print the message needed.

Some ophthalmologists have stated that MRA reports are hard to read. These reports might have been easier for them if the report had contained graphs, charts or histograms, in addition to tables and text. Equipment called plotters are available for attachment to a computer for recording data on graph paper directly from the computer's memory and this output used as part of the text.

The mechanical processes described above should aid in improving the referencing, searching and updating of state blindness registers. The Office of Biometry, upon request, will explain these methods to state registrars in detail and will help them plan and install new mechanized systems.

Finally, when a registrant file becomes large, punched cards may not be an efficient method of storing and processing data. The punched cards can be converted to magnetic tape. This then becomes the data storage medium and the input source for getting data into the computer's memory for processing.

Magnetic tape is cheaper than punched cards for storing data; however, it often is more expensive for processing data. A computer is required for processing data from magnetic tape and even the smallest one is more expensive than punched card processing equipment. However, if the card volume exceeds 15,000 and the computer program has

been written, it is cheaper to update the file or prepare reports from it with a computer. Frequency distributions, listings and other outputs can be created at less cost with a computer than with a 407 or 402 tabulator or other punched card processing equipment.

RECLASSIFICATION OF THE 1965 CAUSE-OF-BLINDNESS DATA

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This paper describes a simplified reclassification of cause-of-blindness data that the Model Reporting Area (MRA) for Blindness Statistics generated in 1965. It gives reasons for cautious interpretation of cause-of-blindness data and recommends ways for future handling of such data.

The thirteen MRA states had 5,571 new cases added to their blindness registers in 1965[1]. Cause-of-blindness codes were not assigned to 451 of these cases because they were reported by other than ophthalmologists or eye-ear-nose-and-throat specialists. The 5,120 cases reported by ophthalmologists or eye-ear-nose-and-throat specialists were assigned cause-of-blindness codes from the National Society for the Prevention of Blindness (NSPB) Manual[2]. According to this coding system, blindness reported in 1965 was classified under 418 different causes. The simplified reclassification system used in this paper combines the 418 causes into 17 larger groups or clinical categories.

The NSPB cause-of-blindness code is a detailed seven-digit classification and coding system. It identifies site and type of ocular affection with its first three digits (reading from left to right) and etiology with its last four digits. Site usually gives the anatomic location of the lesion(s) causing the visual impairment, and type often alludes to the general pathologic process. Two examples of the three-digit site-type classification are:

Cornea, Sclera (general classification)
311 Interstitial keratitis
and
Optic Nerve, Optic Pathway, Cortical Visual Center (general classification)
710 Optic neuritis, including retrobulbar neuritis

For the first example, which is coded 311, corneal stroma is the affection site and inflammation is the affection type. The optic nerve is the affection site and inflammation is the affection type in the second example which is coded to 710. The four-digit etiology code attempts to identify the underlying or basic cause of the lesion identified by the site-type code. Two examples are:

Infectious disease (general classification)
23.00 Tuberculosis
and
Diseases or Disorders Not Otherwise Classified (general classification)
65.10 Multiple sclerosis

Tuberculosis, an infection, or multiple sclerosis, a demyelinating disease of unknown cause, may be associated with various ocular lesions. Blindness due to tuberculous interstitial keratitis is coded 311–23.00, and blindness due to retrobulbar neuritis associated with multiple sclerosis is coded 710–65.10. If a condition's etiology is uncertain, as is often true, the etiology code may be applied by rule. Thus, a cataract or macular degeneration case is coded to the etiology of "senile degeneration" if the registrant's age is 45 or greater. Glaucoma cases are coded to the etiology of "unknown to science."

This seven-digit system subdivides causes of blindness into many different categories. Actually about 1,200 different combinations of seven-digit code numbers are included in the Index of the NSPB Manual. The 5,120 new registrants in 1965 were coded with 418 different seven-digit codes. The results have been recorded in Table I. This table shows that many of these codes were used

[1] The Model Reporting Area for Blindness Statistics, Annual Statistical Report 1965, Public Health Service Publication No. 1601. (South Dakota, an MRA state in 1965, is not included in these statistics.)

[2] NSPB Standard Classification of Causes of Severe Vision Impairment and Blindness, National Society for the Prevention of Blindness, Inc., 79 Madison Avenue, New York, New York.

infrequently in 1965. In fact, 292 of the 418 codes were applied to only one, two, three, or four cases each, (Table I–a) while only five of the most frequently used codes were applied to five percent (256) or more of the new registrants (Table I–b).

The writer objects to this much detail in classification and coding on several grounds. Sometimes this code extends beyond the limits of medical knowledge in general. Assignment of a code often implies greater knowledge of an individual case than can be assumed from the eye reports which the various state registries receive from their contributing sources. In particular, assignment of the etiology codes often involves arbitrariness to a degree that the writer does not relish. Finally, the writer, an ophthalmologist, believes it important to report causes of blindness back to the contributing ophthalmologists after they have been recoded with a simpler code which may be more meaningful to these clinicians.

Consequently, the 418 different cause-of-blindness codes applied to calendar year 1965 new registrants were reclassified into 17 larger groups or clinical categories. Table II shows the clinical categories, the number of seven-digit codes included in each category, and the number of cases and percentage values for each category. This approach is similar to that previously used by Dr. Sorsby of Great Britain[3]. This reclassification of cause-of-blindness codes into 17 different categories shows that cataract is the most common cause of blindness for new cases added to the 13 MRA blindness registers in 1965. Cataract is followed closely by macular degeneration, glaucoma, and diabetic retinopathy. None of these categories includes congenitally occurring conditions because congenital cataract, congenital glaucoma, and other conditions present at or near birth are included under congenital defects. The abiotrophies and dystrophies category includes primarily diseases of the cornea, retina, and choroid in which tissues apparently normal at birth degenerate later in life. Many of these diseases may be hereditary. Examples include retinitis pigmentosa and degenerative myopia. All cases with trauma or poisoning etiology codes, except for retrolental fibroplasia, are included in the trauma or poisoning category. The remaining categories are self-explanatory. The total number of different seven-digit codes shown in Table II is 276, not 418, because three etiology code groups were combined before further reclassification. These were all prenatal infections, all other infections, and all injuries or poisonings.

The information recorded in Table II must not be interpreted to mean that cataract, macular degeneration, etc., are the most prevalent causes of blindness during 1965. These may be the most common causes of blindness for register incidence cases, i.e., for cases that were added to the registers in a single year such as 1965. But a different and perhaps more accurate indicator of the frequency of causes of blindness than register incidence information is register prevalence information. Register prevalence is the number of registrants on a register at a particular time such as at the end of a particular year. The register prevalence cause-of-blindness data probably would differ from register incidence cause-of-blindness data. How might the data differ?

Figure I distributes the 1965 new registrants (register incidence) and the 1965 end-of-year registrants (register prevalence) by the registrant's age. The register prevalence curve shows proportionately more cases for younger ages and fewer for older ages. This difference might be greater if all MRA registers could be updated accurately. Furthermore, causes of blindness vary with population age. Sorsby has shown differences in cause-of-blindness composition when groups arranged by age at onset of blindness were compared.[3] Diseases that affect primarily the elderly, such as glaucoma and macular degeneration, might be relatively less common in the prevalence register than in the incidence register. The high incidence of these affections might be exceeded by high removal rates because of death. Diseases affecting children and young adults, congenital defects, and abiotrophies and dystrophies, might be relatively more common in the prevalence register than in the incidence register. Lower incidence rates of these conditions might be partially offset by the much lower death rate expected in this younger population. Cataract, which in many cases should be successfully treated, could be relatively unimportant if register prevalence cause-of-blindness data were examined.

[3] Sorsby, Arnold. *The Incidence and Causes of Blindness in England and Wales, 1948–1962.* Reports on Public Health and Medical Subject #114, Her Majesty's Stationery Office, London, England.

TABLE I.—*Blindness Cause Code Frequency for Persons Reported to MRA State Blindness Registers in 1965*

There were 5,120 persons reported to MRA state blindness registers in 1965, and their blindness causes were coded with 418 *different* 7-digit codes.

Code Frequency (Ranking of codes by frequency of usage in increasing order)	Codes used at frequency (1)	Cumulated codes	Cumulated codes as % of total (418)	Cases in this frequency	Cumulated cases	Cumulated as % of total (5,120)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	196	196	47.13	196	196	3.83
2[a]	48	244	58.37	96	292	5.70
3	30	274	65.55	90	382	7.46
4	18	292	69.87	72	454	8.87
5	15	307	73.44	75	529	10.33
6	8	315	75.36	48	577	11.27
7	11	326	77.99	77	654	12.77
8	8	334	79.71	64	718	14.02
9	9	343	79.90	81	799	15.61
10	3	346	82.78	30	829	16.19
11	8	354	84.69	88	917	17.91
12	5	359	85.86	60	977	19.08
13	2	361	86.36	26	1003	19.59
14	2	363	86.84	28	1031	20.14
15	1	364	87.08	15	1046	20.43
16	2	366	87.56	32	1078	21.05
17	4	370	88.52	68	1146	22.38
19	4	374	89.47	76	1222	23.87
20	2	376	89.95	40	1262	24.65
21	1	377	90.19	21	1283	25.06
23	1	378	90.43	23	1306	25.51
25	1	379	90.67	25	1331	26.00
28	1	380	90.91	28	1359	26.54
29	1	381	91.15	29	1388	27.11
30	3	384	91.87	90	1478	28.87
31	2	386	92.34	62	1540	30.08
33	2	388	92.82	66	1606	31.37
34	2	390	93.30	68	1674	32.70
35	2	392	93.78	70	1744	34.06
36	1	393	94.02	36	1780	34.77
37	3	396	94.74	111	1891	36.93
40	1	397	94.98	40	1931	37.71
41	1	398	95.22	41	1972	38.52
42	1	399	95.45	42	2014	39.34
46	1	400	95.69	46	2060	40.23
47	2	402	96.17	94	2154	42.07
53	1	403	96.41	53	2207	43.11
66	1	404	96.65	66	2273	44.39
67	1	405	96.89	67	2340	45.70
73	1	406	97.13	73	2413	47.13
75	1	407	97.37	75	2488	48.59
77	1	408	97.61	77	2565	50.10
120	1	409	97.85	120	2685	52.44
126	1	410	98.09	126	2811	54.90
145	1	411	98.33	145	2956	57.73
180	1	412	98.56	180	3136	61.25
198	1	413	98.80	198	3334	65.12
316	1	414	99.04	316	3650	71.29
318	1	415	99.28	318	3968	77.50
321	1[b]	416	99.52	321	4289	83.77
339	1	417	99.76	339	4628	90.39
492	1	418	100.00	492	5120	100.00
Total	418		Total	5120		

[a] see text

[b] see text

TABLE II.—*New Registrants and Blindness Cause Codes by Clinical Condition, 1965*

This table indicates number of blind persons registered in MRA registers in 1965 for first time

Clinical Category	Cause codes (Number of)	Registrants (Number of)	Registrants (Percent of total)
Cataract	16	985	18
Macular degeneration	19	788	14
Glaucoma	9	661	12
Diabetic Retinopathy	15	544	10
Congenital Defects	54[1]	516	9
Abiotrophies, Dystrophies	35	384	7
Disease of Optic Nerve	22	250	4
Uveitis	8[1]	171	3
Trauma Poisoning	21[1]	108	2
Retinal Vascular Disease	6	105	2
Other Retinal Disease	12	85	2
Other Corneal Disease	12	83	1
Retinal Detachment	6	61	1
Other C.N.S. Disease	7	56	1
Retrolental Fibroplasia	2	48	1
Retinoblastoma	1	13	<1
Unknown	31	262	
Uncoded		451	13
	276[1]	5571	100

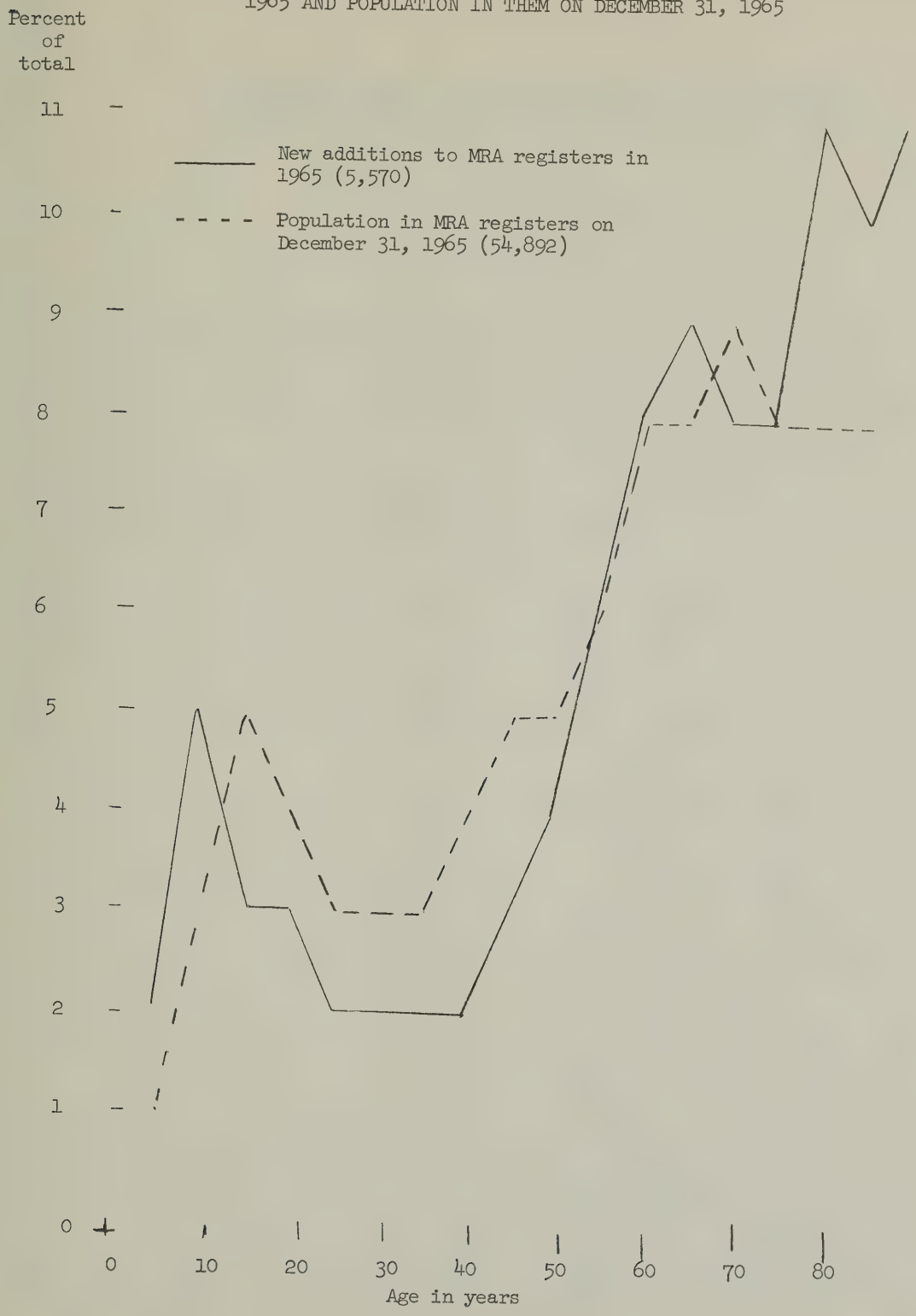
[1] The total number of different codes was 418. However, the total shown in this table is 276 because three etiology code groups were combined before further reclassification. These were all prenatal infections, all other infections, and all injuries or poisonings.

Another limitation of the cause-of-blindness data for 1965 is that they were taken from punched cards. Few actual physicians' reports were available for review by the writer. Consequently, some unlike cases were probably combined into single groups, and some cases with many similarities may have been divided into different categories.

In spite of these limitations, the writer believes methods for routinely presenting the cause-of-blindness information according to a simplified classification system should be worked out. To achieve this goal with high confidence a scheme should be developed that would allow reference directly to physicians' reports, rather than punched cards or tables. Cause-of-blindness data that are register prevalence related should be obtained for comparison to register incidence cause-of-blindness data. The writer believes register prevalence cause-of-blindness data will differ from register incidence data and will more accurately describe the blind population. In order to obtain register prevalence cause-of-blindness data, the registers must be updated annually, i.e., registrants whose vision has been restored, registrants who have moved from the state, and registrants who have died must be removed. The cause-of-blindness information derived from updated prevalence registers might be quite different from cause-of-blindness data taken from register incidence registers and presented in this report.

Figure I

AGE DISTRIBUTION OF NEW ADDITIONS TO MRA REGISTERS IN 1965 AND POPULATION IN THEM ON DECEMBER 31, 1965



STANDARD DATA CODES AND PUNCHED-CARD FORMATS FOR THE MODEL REPORTING AREA

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Section on Blindness Statistics
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National Institute of Neurological Diseases and Blindness

Diverse data codes and punched-card formats among the states are two important problems that NINDB encounters in producing the annual MRA Statistical Report. This paper suggests a solution to these problems.

An MRA register card contains a set of data elements which reflect a legally blind person's demographic and medical characteristics. The required data elements for a registrant are residence county, birth date, sex, race (where permitted), age at blindness onset, month and year when registered, type of addition to register, month and year when removed from register, why removed from register, eye examiner's discipline, degree of vision, standard classification of causes of blindness, and month and year of last eye examination.

For purposes of recording, storing, processing, and retrieving these data elements they are coded on a code sheet for punching into a card. For example, on the code sheet sex is coded "1" if male, and "2" if female. Then either a "1" or a "2" is punched in a card. It is the punched card that the MRA state sends to NINDB for producing the annual MRA Statistical Report.

The storage capacity of a punched card is 80 characters, each of which may be a number (0, 1, . . . , 9), a letter (a, . . . , z), or a special symbol (period, comma, colon, dollar sign, right parenthesis, left parenthesis, etc.) A data element is represented in a punched card with one or more characters or columns. The terms character and column are interchangeable since there is one character per column in a card. Because a blind person's sex is coded "1" if male and "2" if female, it can be punched in one column. Birth year, however, requires three columns, since we currently accept codes from "867" to "966" (representing the years of birth 1867 to 1966) and "999" for unknown. If only two columns were used for birth year, the code for unknown could not be distinguished from the code for year 1899. Consequently, it would be impossible to distinguish children born in 1967 from centenarians born in 1867.

Sex and birth year were chosen as examples, because most MRA states code them with the same numeric codes. Other data elements in a registrant's record are coded differently from state to state. For example, the 14 MRA states identify races with four different code systems. They also identify age at blindness onset with four different code systems and eye examiner's discipline with seven. Due to these differences in the coding by MRA states, NINDB must handle data processing for each state individually, thereby making the data processing inefficient and expensive. As additional states are added to the MRA the complexity of this arrangement increases. Uniformity of code lists, so desirable in theory, is not at all evident in practice.

Punched-card format is the arrangement of data elements within the punched card. The data element sex which is represented by a single character can be recorded in the first column of the card, its 80th column or any column between the first and last. The code lists and code sheets identify the formats that the MRA states use. Currently there is a great diversity in punched-card formats among the MRA states. One example of this diversity is the coding for eye examiner's discipline. In the 14 MRA states, this item appears

in 10 different columns. To run the MRA tabulations in an efficient manner, NINDB must move this item to one column or at least simulate its movement internally on a computer. Either process involves much work. Other examples of the same problem are age at blindness onset, which is in 11 two-column fields in the states, and vision degree which is in 10 one-column fields. As additional states are added to the program there will be even more formats.

To standardize data codes and punched-card formats throughout the MRA means that NINDB and every MRA state would represent an MRA-required data element in a punched card with the same code and would arrange these data elements in the punched card in the same sequence. When the punched cards arrived here, we would know for instance, that a code "2" in column 43 meant discipline of examiner "other M.D." This kind of deduction is not possible at the present time. The NINDB MRA instruction manual (now in preparation) will contain recommended MRA punched-card formats and data codes. Non-MRA items would not be affected. The state could code and format these non-required items as it pleased as long as they would not interfere with the formats and codes for the MRA-required items.

The MRA states would obtain significant benefits from standardizing their data codes and punched card formats. For example, they could use the NINDB MRA instruction manual to teach their staffs how to code data and program a punched-card processor or an electronic computer to process these data. They could use computer programs that NINDB has written and the punched-card format that NINDB has designed. The NINDB staff could help the states more effectively if data codes and card formats were standardized throughout the MRA. Furthermore, NINDB could more easily do a computer edit of punched cards received from the states and create reports from them using a computer.

Both NINDB and the MRA states should explore the feasibility of standardizing data codes and punched-card formats, and if such standardization is found to be feasible, they should adopt standard data codes and punched-card formats as soon as possible.

MAINTAINING THE KANSAS BLINDNESS REGISTER WITH A COMPUTER OR PUNCHED-CARD PROCESSING EQUIPMENT

William J. Oliver
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A blindness register can be maintained efficiently with punched card processing equipment, if the register is not too large. Punched card equipment is adequate for the Kansas register. A large register can be more efficiently handled with an electronic computer and by storing information on magnetic tape rather than on punched cards or in combination with punched cards.

The Kansas blindness register of 3,000 registrants is typewritten on 5″ x 8″ register cards and is also punched into cards. The former is used for manual referencing, whereas the latter is for use with a computer or punched-card processing equipment.

The mechanized system, i.e., either a computer or punched-card processing equipment has advantages over a manual one. It can read information from punched cards, punched paper tape, magnetic tape, magnetic cards, magnetic ledgers, magnetic disks, optical or magnetic ink documents, and documents containing information recorded with special type fonts. It can read this information at high speeds such as 100,000 characters per second and write or print it at speeds up to 1500 lines per minute. Furthermore, it can perform thousands of computations in a second and never get bored doing the work. It can sort blindness data into different sequences, i.e., arrange registrants in alphabetical sequence, identification number sequence, residence county sequence, blindness cause sequence, visual impairment degree, etc. Hence, it can create a variety of reports on characteristics and attributes of the blind in Kansas.

The following are some special reports that a computer can be programmed to prepare.

List of registrants in age groups that might benefit from school for the blind or vocational rehabilitation training. A monthly or quarterly list of blindness causes for registrants added to the register in the month or quarter. This might reveal trends as they start to develop. List of new registrants by source from which they were referred for registration. List of new registrants whose residence is in a specified metropolitan area. List of registrants by age group. List of registrants by public assistance status. All of these reports and others as well could be used in preparation of the states program of assistance to the blind.

A report on public assistance status might be derived from our register of 3,000 cards in the following way. The 3,000 cards are sorted into county sequence on a 3-digit code. A sorter operating at 1,000 cards per minute can do this in about 10 minutes. It takes 5 minutes to wire the control panel to produce a report indicating county code, number of registrants in the county, number of them receiving public assistance, number not receiving it, and number of those for whom it is unknown whether they receive assistance or not. A 402 Accounting Machine could tabulate this information in about 25 minutes. Hence, the mentioned equipment takes about 40 minutes to produce the report. A skilled operator could overlap steps and save time.

An address file which might replace Addressograph or similar equipment could be maintained with a computer or punched card processing equipment. A small register could be maintained with a keypunch and a sorter costing only $100 per month in rental.

The equipment for processing punched cards is in the Research and Statistics Department which performs services for all divisions of the Welfare Department. The register is updated and balanced monthly. This could be done weekly or daily for a large register. The data recorded in the 5 x 8 type register card is keypunched into cards which are verified. Listings and statistical reports are derived from the punched cards with electronic processing equipment. The typewritten register cards are referenced, searched and updated manually in the Division for Services to the Blind. There are machines available today that can read the typed text and figures recorded on the 5 x 8 card but they are too expensive for use in connection with a register. The direct reading of the 5 x 8 card by such equipment would eliminate keypunching. Throughout a month a control clerk lists names to be removed from the register, reason for removal and at end of the month sends this list to data processing. Register balancing and updating is initiated at month end. Cards are punched for persons to be added to the register. Cards are pulled for those to be removed, and removal date and reason for removal are punched into them. The control clerk sends us the total number of people on the register at month's beginning, total added and total removed in the month and the number remaining on the register at month end. Before any cards are returned to the file, the figures are balanced to the month end total. Additions, removals and number remaining on the register at month end are counted by machine. Differences are reconciled at end of each month and at year-end. Monthly reconciliations are preferable to annual ones because it would be more difficult to find out what happened to a particular individual.

The control clerk counts the register cards as they are returned to be sure that all of them are placed in the manual reference file.

When registrants are added to the register, required statistical information is frequently missing. This is obtained with a "follow-up" form. The control clerk in the blind division fills out the form, checking the items that are needed, and sends it to the proper county welfare department or to a member of the field staff who makes the contact and obtains the information.

Register data that change such as living arrangement, education, etc., are checked periodically. Listings of the entire register by county are sent to county welfare departments indicating the missing information and asking them to find this information and return it to us to update our register.

The MRA states edit their registers annually. A monthly machine edit to correct errors would simplify the annual edit. A machine edit doesn't prove that an item is right; however, it is a partial check and a basis for further editing by manual methods. For instance, public assistance status might be coded 1 if the person receives public assistance, 2 if not, and 9 if unknown. If a machine edit shows that there are other codes present such as 4 or 5, an error exists and should be corrected.

If it is desired to clear a part of a register, the computer could be programmed to select people older than a certain age and prepare a list for the staff to check whether they are still alive and their present status. A data exchange with the local bureau of vital statistics might be arranged for this purpose.

To obtain complete and accurate data on a registrant and to keep these data current are two major problems associated with a blindness register. A followup for missing data and an annual check of changeable data will reduce the impact of these problems. Data processing equipment makes this work easier.

The computer or punched card processing equipment can be programmed to provide special one-time reports.

REFERRAL SYSTEM FOR MAINTAINING THE OREGON REGISTER OF BLIND PERSONS

Clifford A. Stocker, Administrator
Commission for the Blind

The Oregon register is useful for research and administration purposes. Its data are required for developing and planning services for the blind, and consequently must accurately reflect the blind population's composition, location, and its other characteristics and attributes. Each registrant's name, address, birth date, sex, race, vision impairment degree, vision impairment cause, age at vision impairment onset, etc., must be recorded in the register. Oregon obtains this information on a registrant from a variety of sources.

The sources which in 1966 referred persons to the blindness registrar for registration and the number that each referred were as follows: Self-referred, 58. Ophthalmologists, 156. Other M.D.'s, 3. Optometrist, 1. Public schools, 16. Welfare Commission, 57. Health departments, 5. Friends and relatives, 83. Other, 47. Unknown sources of referral, 32. For a total of 458.

More than one-third of these referrals came directly from ophthalmologists in private practice. Relations with them have been good for over 20 years, and at present they are an important referral source. Every ophthalmologist receives a copy of the MRABS annual statistical report. This has encouraged referrals from them because it has helped them to appreciate the register's value. The state pays $5.00 for a written medical history and $20.00 for an ophthalmological examination, plus $10.00 extra for a fields examination. These payments compensate the doctor and the office girl who prepares the report for the state.

The outpatient clinic of the Department of Ophthalmology, the University of Oregon Medical School furnishes to the registrar medical histories on registrants. The state pays a part of a secretary's salary to reimburse the clinic for checking out-patient clinic files for new blind patients. She is expected to pick up and report the clinic's backlog of long-term patients who had not been previously referred for registration. Fortunately she has registered most all preschool and school age patients.

The State School for the Blind and the State Department of Education, through its education of the visually handicapped section, also refer persons to the Commission for registration. The social caseworker and registrar visit these agencies once a year or more often if necessary, to pick up names from their student roster of those who have not been registered. This same practice has been tried at the state institution for the mentally retarded but as yet the ophthalmological information on its inmates is not sufficiently complete for deciding whether an inmate should be registered as a blind person or is too retarded to be properly ophthalmically evaluated. It is hoped we may be able to have this institution's inmates examined by the residents at the Ophthalmology Department, University of Oregon Medical School in order to identify and treat their correctable or modifiable visual disabilities. The uncorrectably blind will be registered, thereby adding to the register's completeness. There are 50 to 70 inmates at this institution who are blind within the MRA blindness definition. Such arrangements also are being planned with other State institutions.

State Public Welfare, an extremely important referral source, sends the registrar a list each month of blind assistance recipients and new applicants and each county welfare office also notifies the registrar of cases receiving other kinds of assistance, such as Old Age Assistance or Aid to the Deaf, who have become blind or might be eligible for sight-restoration surgery. The Oregon Commission for the Blind has a written agreement with Public Welfare relative to surgical treatment of recipients. An active committee,

consisting of two representatives from each agency meets every other month to discuss the agreement's effectiveness and to recommend additions, deletions or clarifications.

The Drivers License Section of the State Motor Vehicle Department is another referral source. Two years ago about 90 persons on the register had driver's licenses and some were still driving. Since this discovery some driver licenses were revoked and some registrants have been removed from the register. This referral source often helps the registrar discover persons who need ophthalmic surgery or treatment.

The registered nurses in hospitals, doctors offices, nursing homes and other health facilities or centers refer visually impaired persons for registration. Each year student nurses from various training hospitals in Portland visit the Commission for the Blind headquarters to learn about its operations and the functions of nurses in caring for and treating blind persons.

Other sources refer persons for registration but too often they do not realize how important it is to report persons for registration in order to expedite services to them. Therefore, they do not make as many referrals as they could. A good public education program is the best way to increase referrals and public participation in getting needed services to blind people and in maintaining a good register. The Commission for the Blind hopes to initiate such a program soon.

UPDATING AND CLEARANCE PROCEDURES FOR LOUISIANA BLIND REGISTER

William V. Bridges, Director
Louisiana Division for the Blind

The procedures for updating and clearing this register are not perfect and probably not adaptable for other states to use. They were developed by trial and error and will need further refinement.

The state's public welfare commissioner is appointed by the State Welfare Board which is appointed by the Governor. The Welfare Department includes the Division of Probation and Parole, and the Division for the Blind (DB). It is both advantageous and disadvantageous for DB to be in the Welfare Department. It is an advantage for the register since this makes Welfare Department resources available for updating it. A state law requires a register to be kept and maintained. It does not require legally blind persons to be reported for registration.

Welfare Department resources and staff help to clear and update the blind register. Case folders, statistical information, and reports are available on adults and children receiving public assistance.

Information on needy blind is the most helpful. Welfare Department equipment and staff such as the punched card system and their Research and Statistics Division respectively are available to DB. The Tabulating Section prints a monthly list of needy blind persons, showing additions, transfers, closures, and reasons for closure. The list helps DB to clear and update the register. Coded information from the register is punched into cards by the Tabulating Section. This includes new cases, readditions, removals, and changes.

The various services DB provides help to update and clear the register. These are Vocational Rehabilitation; Social and Personal Adjustment, sometimes known as the Home Teaching Program; Program for Blind Children; Talking Book Machine Distribution Program; Vending Stand Program; Blind Made Products Program; Determination of Social Security Disability Insurance Benefits for the Blind; and the certification of blind persons for Aid to Needy Blind. Since DB determines visual eligibility of needy blind applicants and recommends glasses and medical treatment for them, this provides DB with information on them. Eye reports on needy applicants are sent to the Medical Social Consultant for Eye Services for review, certification, and other medical recommendations.

In January or February, DB sends a newsletter by first class mail to all registrants. It highlights a major blindness cause and explains a service, and contains other information. It informs and stimulates the registrant's interest in DB services and obtains their current addresses. Since it is sent first class, it is returned if the address is incorrect. The postman usually indicates why it was returned, i.e., unable to locate, moved, wrong address, etc. The returned newsletters are checked against case folders to determine if the correct address is available. The returned newsletters which request services or information are handled accordingly. These responses are noted on back of register cards as contacts for annual updating purposes.

DB records in a blind services code sheet information on every blind person actively receiving services. New cases accepted for services are added and when services are completed, they are removed. These code sheets are completed by the clerical staff. A client may receive one or several services. These code sheets are submitted monthly to the Research and Statistics Section to be checked for completeness and from there are sent to the Tabulating Section to be punched into cards.

The Tabulating Section, in May, matches the records in the blind service file to those in the total blind register and sends DB a list of blind persons not in service status, and DB contacts these by mailing perforated cards to them. One side of the card is addressed to the client and the other side is

stamped and addressed for return to the agency. Since addresses are not provided on the list, the registrant addresses are obtained from their register cards. The card to be returned by the registrant contains questions to be answered before it is returned. The cards are sent by first class mail to insure their return to the department if delivery cannot be made, with reasons why the Post Office could not deliver them. Each returned card is checked against case folders for a current address; and, if one is found, the card is mailed again. A person whose current address cannot be found or who does not return the card with responses to the questions is contacted by other means. The names of these with the latest known addresses are sent to the field staff for personal contacts. Clients who cannot be located or contacted by the staff are not removed from the register. The register is updated in accordance with replies received. Thus, the newsletter, "Blind Services File," and the mailing of perforated cards provide three screening devices before DB staff make field contacts.

Cards are not sent to persons in mental institutions, the leprosarium, nursing homes, etc. DB requests a list from these institutions each year for updating the DB register.

Updating and maintaining the DB register is not easy. It requires a dedicated and alert staff, since one person's negligence can destroy the register's accuracy. It also helps find new cases because it notifies registrants and others of services available from DB and interprets these services.

Ophthalmologists still do not refer persons to DB for registration. Once a year DB mails them a newsletter, an MRA statistical report, and a questionnaire asking whether they want this information. About fifty percent do, and some desire that the statistics be rearranged to make them more comprehensible.

OF MEDICAL CONSULTANTS, BLIND COMMISSIONS, AND DOCTOR-AGENCY RELATIONSHIPS

Charles Spray, M. D.
Medical Consultant to Oregon
Comission for the Blind

This paper discusses the role of a Medical Consultant to a Blind Commission in both rehabilitative and data collecting efforts of the agency. In addition suggestions are made towards improvement of the Doctor-Agency relationship.

The major function of a medical consultant to the Blind Commission lies in rehabilitation of the individual as a whole. In this role, he reviews past medical histories, general medical examination results and the recommendations of examining physicians. From the collected data he evaluates the need for further special examinations and in each case judges how any physical, mental or emotional disabilities not relating to blindness may restrict the agency's plans for vocational rehabilitation. Another important function of the Medical Consultant is as an intermediary between the agency and the physicians in the community who may appreciate someone in the agency who is familiar with medical terminology and well aware of the problems of medical practice.

Concerned as we are in this conference with the adequacy of data reporting, and aware of the exasperation agency people may feel toward the apparently uncooperative physician, I would like to dwell for the remainder of my talk on what one could call the Doctor-Agency relationship. Most physicians are basically individualists, and many feel that a challenging environment encourages ambition and accomplishment while a supportive or overly protective one discourages incentive. In such a light governmental agencies may be seen as a threat to self-determination and an entire socio-economic value system. While the number of the physicians staunch in this belief is small and dwindling, state agency people should be able to deal more effectively with physicians by recognizing that such a sensitivity may exist.

In a very real sense the government has taken over much of the charitable role that physicians once held. Having usurped his charitable role and its gratifications one cannot in turn ask the doctor to be charitable to the agency. To allow him some measure of respect then, I would suggest the agency offer him a usual and customary fee for his services, as is done in the state of Oregon. If funds are limited, the agency can at least simplify examination forms to minimize the amount of time required for their completion.

I believe more blind patients would be reported to the State Blind Registry if the agency divided its functions into statistics and services. This separation of function would allow a case to be reported for statistics only if the patient does not need or want financial assistance or vocational rehabilitation. In this way the proud and financially independent patient may be introduced to a Blind Commission for statistical purposes, without endangering that patient's sense of independence nor the relationship between him and his physician. Finally, the state agency can greatly further the confidence and cooperation of the physicians that serve them by demonstrating an interest more in rehabilitation of the patient than in support of his indigence or infirmity.

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Model Reporting Area for Blindness Statistics May 18–19, 1967

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- Mr. Robert L. Robinson, Research Associate, Department of Research

National Society for the Prevention of Blindness, Inc.
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Research to Prevent Blindness, Inc.
- Mr. Albert V. Burns, Director of Public Information

Canada

Canadian National Institute for the Blind
- Miss Susan J. Hennighausen, National Supervisor, Prevention of Blindness and Eye Service Department

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- Mr. Paul Thompson, Executive Secretary

Catholic Guild for All the Blind
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Rehabilitation Codes, Inc.
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